Network Camera

User's Manual V5.0

This manual applies to the following camera models:

Type	Model(s)
Box Camera	IPC-BX3MPWDR, IPC-BX960P
Dome Camera	IPC-DFR960R, IPC-DFR3MP, IPC-DVR3MP
Bullet Camera	IPC-BVR3MP, IPC-BFR960P, IPC-BFR3MP
Cube Camera	IPC-CB1080P
Mini-Dome Camera	IPC-DF1080P

Thank you for purchasing our product. If you have any questions or requests, please do not hesitate to contact our Technical Support Staff.

This manual applies to Network Cameras.

NOTICE: This manual may contain printing errors, and the content is subject to change without notice. The updates will be added to new versions of this manual. We will readily improve or update the products or procedures described in the manual as required.

Regulatory Information

FCC Information

FCC compliance: This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. If the operation of this equipment in a residential area is likely to cause harmful interference, the user will be required to correct the interference at his or her own expense.

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

CE This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC.

2002/96/EC (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

Safety Warnings and Cautions

Please pay attention to the following warnings and cautions:

Hazardous Voltage may be present: Special measures and precautions must be taken when using this device. Some potentials (voltages) on the device may present a hazard to the user. This device should only be used by employees from our company with knowledge and training in working with these types of devices that contain live circuits.

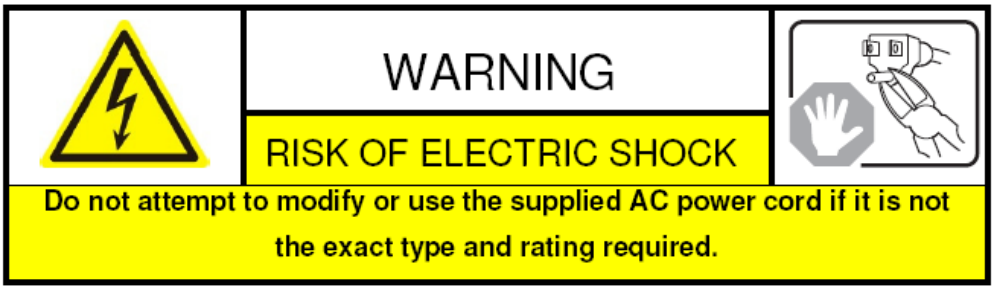
Caution
The power supply in this product contains no user-serviceable parts. Refer servicing only to qualified personel.

Power Supply Hazardous Voltage: AC voltages are present within the power supply assembly. This device must be connected to a UL approved, completely enclosed power supply, of the proper rated voltage and current. **No user serviceable parts are contained inside the power supply.**

WARNING
RISK OF ELECTRIC SHOCK
Connect only to a properly earth grounded outlet.
Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk.

System Grounding (Earthing): To avoid shock, ensure that all AC wiring is not exposed and that the earthing/grounding is maintained. Ensure that any equipment to which this device will be attached is also connected to properly wired and grounded receptacles. Do not use around medical equipment unless that medical equipment is specifically approved for use around such devices.

Power Connect and Disconnect: The AC power supply cord is the main disconnect device to mains (AC power).The socket outlet shall be installed near the equipment and shall be readily accessible.
Installation and Maintenance: Do not connect/disconnect any cables to and/or perform installation/maintenance on this device during an electrical storm.


WARNING
RISK OF ELECTRIC SHOCK
Do not attempt to modify or use the supplied AC power cord if it is not the exact type and rating required.

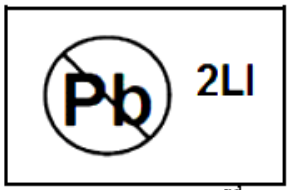
Power Cord Requirements: The connector that plugs into the wall outlet must be a grounding-type male plug designed for use in your region. It must have certification marks showing certification by an agency in your region. The connector that plugs into the AC receptacle on the power supply must be an IEC 320, sheet C13, female connector. See the following website for more information http://kropla.com/electric2.htm.

Lithium Battery: This device contains a Lithium Battery. There is a risk of explosion if the battery is replaced by an incorrect type. Dispose of used batteries according to the vendor's instructions and in accordance with local environmental regulations. **Perchlorate Material:** Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate. This notice is required by California Code of Regulations, Title 22, Division 4.5, Chapter 33: Best Management Practices for Perchlorate Materials. This device includes a battery which contains perchlorate material.

Taiwan battery recycling: Please recycle batteries.

Thermal and Mechanical Injury: Some components such as heat sinks, power regulators, and processors may be hot; care should be taken to avoid contact with these components.

Lead Content:



Please recycle this device in a responsible manner. Refer to local environmental regulations for proper recycling; do not dispose of device in unsorted municipal waste.

Safety Instructions

These instructions are intended to ensure that the user can use the product correctly to avoid danger or property loss.

The precaution measure is divided into 'Warnings' and 'Cautions':

Warnings: Serious injury or death may be caused if any of these warnings are neglected.

Cautions: Injury or equipment damage may be caused if any of these cautions are neglected.

Warnings: Follow these safeguards to prevent serious injury or death.	**Cautions:** Follow these precautions to prevent potential injury or material damage.

Warnings:

- ●Please use a power adapter which meets the Safety Extra Low Voltage (SELV) standard. Source with DC 12Vor AC 24V(depending on model) according to the IEC60950-1 and Limited Power Source standard.
- ●If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the camera yourself. (We will not assume any responsibility for problems caused by unauthorized repair or maintenance.)
- ●To reduce the risk of fire or electrical shock, do not expose this product to rain or moisture.
- ●This installation should be made by a qualified service person and should conform to all the local codes.
- ●Please install blackout equipment into the power supply circuit for convenient supply interruption.
- ●Please make sure that the ceiling can support more than 50 newtons/11.24 pounds/5 kilograms if the camera is fixed to the ceiling.
- ●If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the camera yourself. (We will not assume any responsibility for problems caused by unauthorized repair or maintenance.)

Cautions:

●Make sure the power supply voltage is correct before using the camera.

●Do not drop the camera or subject it to physical shock.

●Do not touch sensor modules with fingers. If cleaning is necessary, use a clean cloth with a bit of ethanol and wipe it gently. If the camera will not be used for an extended period of time, put on the lens cap to protect the sensor from dirt.
●Do not aim the camera lens at the strong light such as sun or incandescent lamp. The strong light can cause fatal damage to the camera.
●The sensor may be burned out by a laser beam, so when any laser equipment is being used, make sure that the surface of the sensor not be exposed to the laser beam.
●Do not place the camera in extremely hot, cold temperatures (the operating temperature should be between -10°C ~ 60°C), dusty or damp environment, and do not expose it to high electromagnetic radiation.
●To avoid heat accumulation, good ventilation is required for a proper operating environment.
●Keep out of water and any liquid.

●While shipping, the camera should be packed in its original packing.

●Improper use or replacement of the battery may result in hazard of explosion. Please use the manufacturer recommended battery type.

Contents

CHAPTER 1 SYSTEM REQUIREMENTS 11

CHAPTER 2 NETWORK CONNECTION 12

2.1 SETTING THE NETWORK CAMERA OVER THE LAN 12
2.1.1 Wiring over the LAN 12
2.1.2 Detecting and Changing the IP Address 13
2.2 SETTING THE NETWORK CAMERA OVER THE WAN 14
2.2.1 Static IP Connection 14
2.2.2 Dynamic IP Connection 15

CHAPTER 3 ACCESS TO THE NETWORK CAMERA 17

3.1 ACCESSING VIA WEB BROWSERS 17
3.2 ACCESSING VIA CLIENT SOFTWARE 19
3.3 ACCESSING VIA VMS CLIENT SOFTWARE SOFTWARE 19

CHAPTER 4 WI-FI SETTINGS 21

4.1 CONFIGURING WI-FI CONNECTION IN MANAGED AND AD-HOC MODES 21
4.2 EASY WI-FI CONNECTION WITH WPS FUNCTION 25
4.3 IP PROPERTY SETTINGS FOR WIRELESS NETWORK CONNECTION 28

CHAPTER 5 LIVE VIEW 29

5.1 LIVE VIEW PAGE 29
5.2 STARTING LIVE VIEW 30
5.3 RECORDING AND CAPTURING PICTURES MANUALLY 30
5.4 OPERATING PTZ CONTROL 31
5.4.1 PTZ Control Panel 31
5.4.2 Setting / Calling a Preset 32
5.5 CONFIGURING LIVE VIEW PARAMETERS 33

CHAPTER 6 NETWORK CAMERA CONFIGURATION 34

6.1 CONFIGURING LOCAL PARAMETERS 34
6.2 CONFIGURING TIME SETTINGS 35
6.3 CONFIGURING NETWORK SETTINGS 37
6.3.1 Configuring TCP/IP Settings 37
6.3.2 Configuring Port Settings 38
6.3.3 Configuring PPPoE Settings 39
6.3.4 Configuring DDNS Settings 40
6.3.5 Configuring SNMP Settings 42
6.3.6 Configuring 802.1X Settings 43
6.3.7 Configuring QoS Settings 44
6.3.8 Configuring FTP Settings 44
6.3.9 Configuring UPnP™ Settings 45
6.4 CONFIGURING VIDEO AND AUDIO SETTINGS 46

6.4.1 Configuring Video Settings 46
6.4.2 Configuring Audio Settings 48
6.4.3 Configuring ROI Encoding 48
6.5 CONFIGURING IMAGE PARAMETERS 49
6.5.1 Configuring Display Settings 49
6.5.2 Configuring OSD Settings 51
6.5.3 Configuring Text Overlay Settings 53
6.5.4 Configuring Privacy Mask 53
6.5.5 Configuring Picture Overlay 54
6.6 CONFIGURING AND HANDLING ALARMS 55
6.6.1 Configuring Motion Detection 55
6.6.2 Configuring Tamper-proof Alarm 59
6.6.3 Configuring External Alarm Input 60
6.6.4 Configuring Alarm Output 62
6.6.5 Handling Exceptions 63
6.6.6 Email Sending Triggered by Alarm 64
6.6.7 Configuring Snapshot Settings 66
6.6.8 Face Detection 68

CHAPTER 7 STORAGE SETTINGS 69

7.1 CONFIGURING NAS SETTINGS 69
7.2 CONFIGURING RECORDING SCHEDULE 71

CHAPTER 8 PLAYBACK 75

CHAPTER 9 LOG SEARCHING 77

CHAPTER 10 OTHERS 78

10.1 MANAGING USER ACCOUNTS 79
10.2 CONFIGURING RTSP AUTHENTICATION 80
10.3 ANONYMOUS VISIT 81
10.4 IP ADDRESS FILTER 81
10.5 VIEWING DEVICE INFORMATION 83
10.6 MAINTENANCE 84
10.6.1 Rebooting the Camera 84
10.6.2 Restoring Default Settings 84
10.6.3 Importing/Exporting Configuration File 84
10.6.4 Upgrading the System 85
10.7 RS-232 SETTINGS 85
10.8 RS-485 SETTINGS 86

APPENDIX 87

APPENDIX 1 SADP SOFTWARE INTRODUCTION 87
APPENDIX 2 PORT MAPPING 89

Chapter 1 System Requirements

Operating System: Microsoft Windows XP SP3/Vista/Win7/Win8/Server 2003/ Server 2008 32-bit
CPU: Intel Pentium IV3.0 GHz or higher
RAM: 1G or higher
Display: 1024×768 resolution or higher
Web Browser: Internet Explorer 8.0 and above, Apple Safari 5.02 and above, Mozilla Firefox 3.5 and above and Google Chrome 8 and above.

Chapter 2 Network Connection

Before you start:

- If you want to set the network camera via a LAN (Local Area Network), please refer to *Section 2.1* ***Setting the Network Camera over the LAN***.
- If you want to set the network camera via a WAN (Wide Area Network), please refer to *Section 2.2* ***Setting the Network Camera over the WAN***.

2.1 Setting the Network Camera over the LAN

Purpose:

To view and configure the camera via a LAN, you need to connect the network camera in the same subnet as your computer and install the SADP or VMS CLIENT SOFTWARE to search for and change the IP address of the network camera.

Note: For a detailed introduction to SADP, please refer to Appendix 1.

2.1.1 Wiring over the LAN

The following figures show the two ways of cable connection of a network camera and a computer:

Purpose:

- To test the network camera, you can directly connect the network camera to the computer with a network cable as shown in Figure 2-1.
- Refer to the Figure 2-2 to set the network camera over the LAN via a switch or a router.

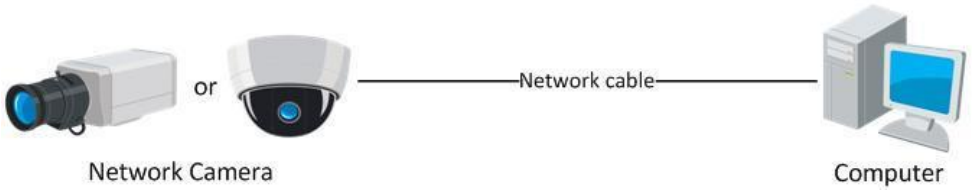


Figure 2-1 Connecting Directly

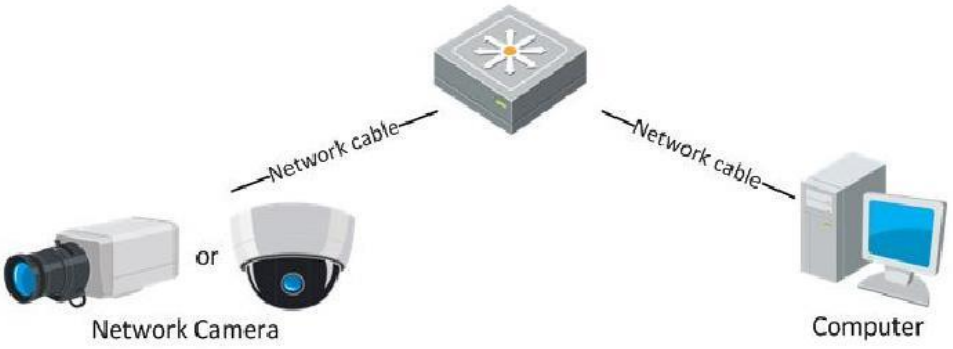


Figure 2-2 Connecting via a Switch or a Router

2.1.2 Detecting and Changing the IP Address

You need the IP address of the network camera to see it via a web browser.

Steps:

1. To get the IP address, you can choose either of the following methods:

   ●Use SADP, a software tool which can automatically detect the online network cameras in the LAN and list the device information including IP address, subnet mask, port number, device serial number, device version, etc., shown in Figure 2-3.

   ●Use the client software to list the online devices. Please refer to the user manual of client software for detailed information.
2. Change the IP address and subnet mask to the same subnet as that of your computer.
3. Enter the IP address of network camera in the address field of the web browser to view the live video.

Notes:

●**The default IP address is 192.0.0.64 and the default port number is 8000. The default user name is admin, and password is 12345.**

●For accessing the network camera from different subnets, please set the gateway for the network camera after you logged in. For detailed information, please refer to *Section 5.3.1* ***Configuring TCP/IP Settings****.*

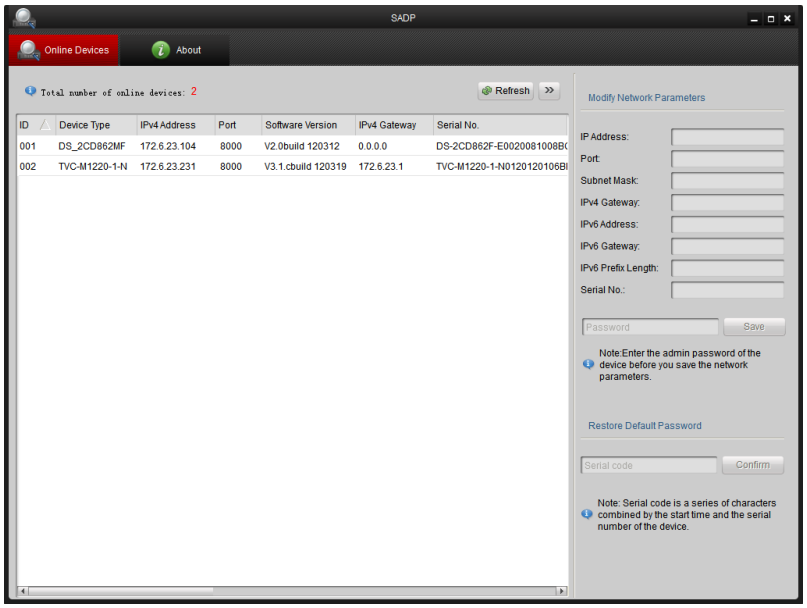


Figure 2-3 SADP Interface

2.2 Setting the Network Camera over the WAN

Purpose:

This section explains how to connect the network camera to the WAN with a static IP or a dynamic IP.

2.2.1 Static IP Connection

Before you start:

Please apply a static IP to the camera. With the static IP address, you can connect the network camera via a router or connect it to the WAN directly.

●Connecting the network camera via a router

Steps:

1. Connect the network camera to the router.
2. Assign a LAN IP address, the subnet mask and the gateway. Refer to *Section 2.1.2* ***Detecting and Changing the IP Address*** for detailed IP address configuration of the camera.
3. Save the static IP in the router.
4. Set port mapping: TCP 80, TCP/UDP 8000 and TCP/UDP 554 ports. The steps for port mapping vary depending on different routers. Please call the router manufacturer for assistance with port mapping.

Note: Refer to Appendix 2 for detailed information about port mapping.

5. Visit the network camera through a web browser or the client software over the internet.

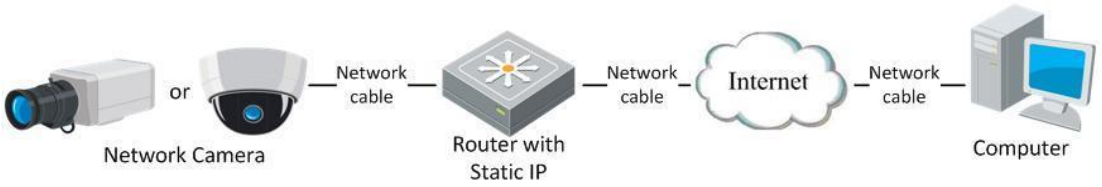


Figure 2-4 Accessing the Camera through Router with Static IP

2.2.2 Dynamic IP Connection

Before you start:
Please apply a dynamic IP from an ISP. With the dynamic IP address, you can connect the network camera to a modem or a router.

●Connecting the network camera via a router
Steps:
1. Connect the network camera to the router.
2. In the camera, assign a LAN IP address, the subset mask and the gateway. Refer to *Section 2.1.2* ***Detecting and Changing the IP Address*** for detailed LAN configuration.
3. In the router, set the Poe user name, password and confirm the password.
4. Set port mapping. The steps for port mapping vary depending on different routers. Please call the router manufacturer for assistance with port mapping.

Note: Refer to Appendix 2 for detailed information about port mapping.
5. Apply a domain name from a domain name provider.
6. Configure the DDNS settings in the setting interface of the router.
7. Visit the camera via the applied domain name.

●Connecting the network camera via a modem

Purpose:
This camera supports the PPPoE auto dial-up function. The camera gets a public IP address by ADSL dial-up after the camera is connected to a modem. You need to configure the PPPoE parameters of the network camera. Refer to *Section 5.3.3* ***Configuring PPPoE Settings*** for detailed configuration.

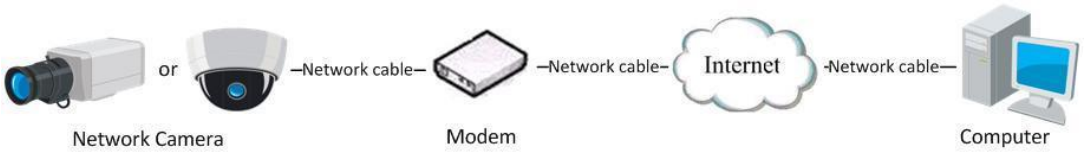


Figure 2-6 Accessing the Camera with Dynamic IP

Note: The obtained IP address is dynamically assigned via PPPoE, so the IP address always changes after rebooting the camera. To solve the inconvenience of the dynamic IP, you need to get a domain name from the DDNS provider (Example: DynDns.com). Please follow below steps for normal domain name resolution and private domain name resolution to solve the problem.

●Normal Domain Name Resolution

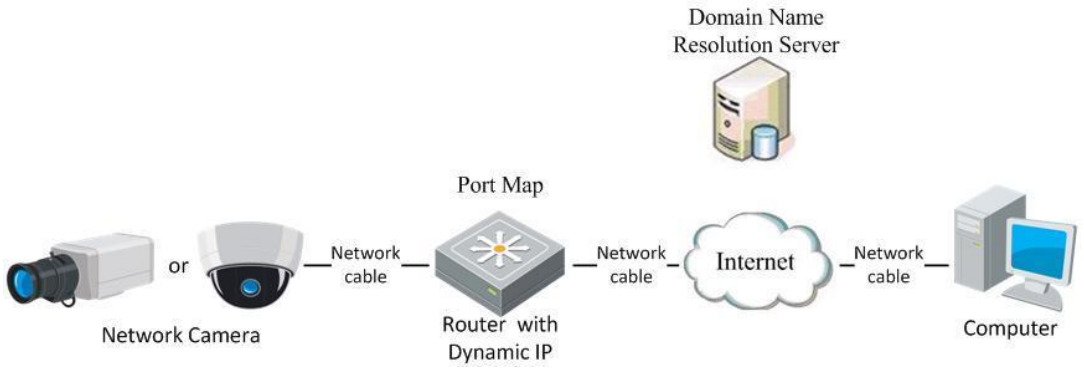


Figure 2-7 Normal Domain Name Resolution

Figure 2-7 Normal Domain Name Resolution

Steps:

1. Apply a domain name from a domain name provider.
2. Configure the DDNS settings in the **DDNS Settings** interface of the network camera. Refer to *Section 5.3.4* ***Configuring DDNS Settings*** for detailed configuration.
3. Visit the camera via the applied domain name.

●Private Domain Name Resolution

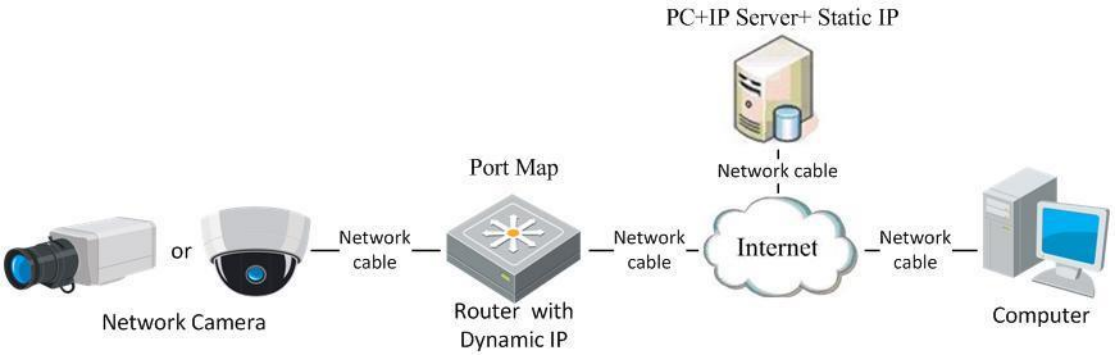


Figure 2-8 Private Domain Name Resolution

Figure 2-8 Private Domain Name Resolution

Steps:

1. Install and run the IP Server software in a computer with a static IP.
2. Access the network camera through the LAN with a web browser or the client software.
3. Enable DDNS and select IP Server as the protocol type. Refer to *Section 5.3.4* ***Configuring DDNS Settings*** for detailed configuration.

Chapter 3 Access to the Network Camera

3.1 Accessing by Web Browsers

Steps:

1. Open the web browser.
2. In the address field, input the IP address of the network camera (Example: 192.0.0.64) and press the Enter key to enter the login interface.
3. Input the user name and password and click Login.

Note: The default user name is admin, password is 12345.

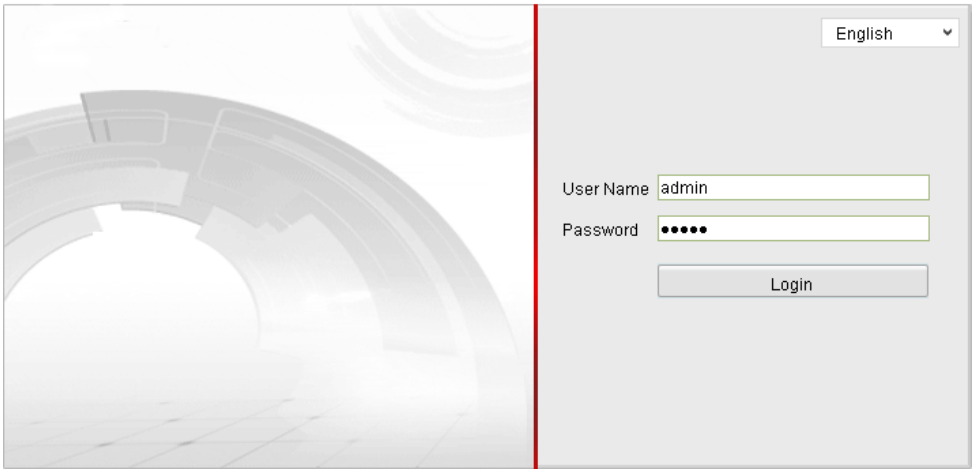


Figure 3-1 Login Interface

4. Install the plug-in before viewing the live video and operating the camera. Please follow the installation prompts to install the plug-in.

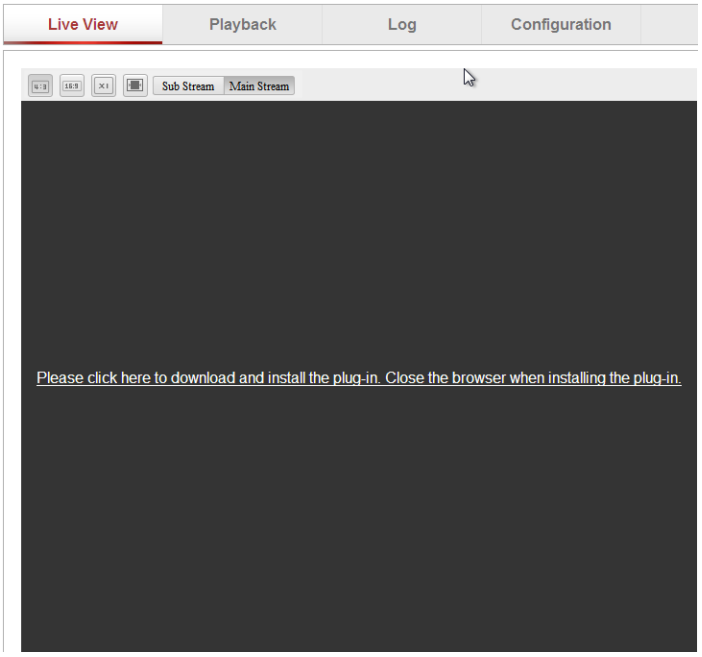


Figure 3-2 Download and Install Plug-in

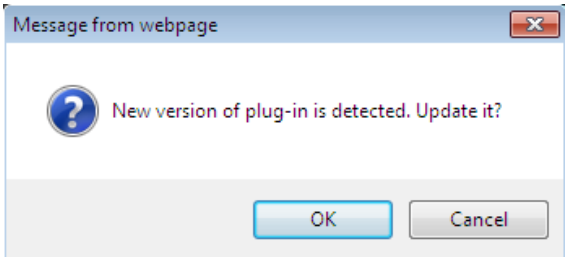


Figure 3-3 Install Plug-in (1)

Figure 3-4 Install Plug-in (2)

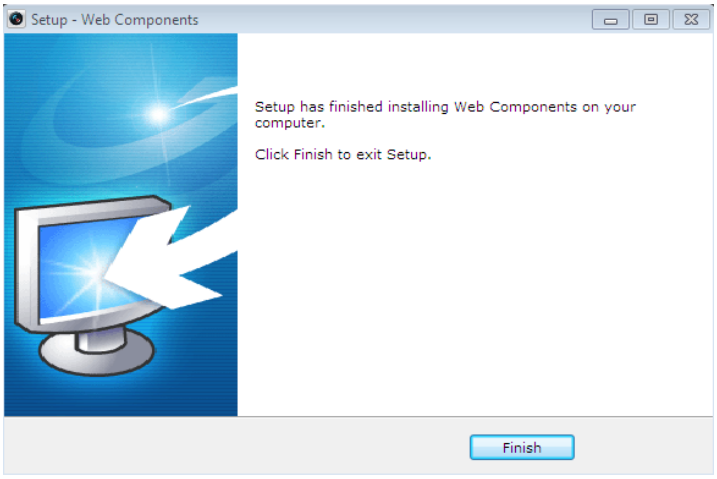


Figure 3-5 Install Plug-in (3)

Note: You may have to close the web browser to install the plug-in. Please reopen the web browser and log in again after installing the plug-in.

3.2 Accessing by Client Software

3.2.1 Accessing by VMS Client Software

The product CD contains the VMS Client Software (Client or PCNVR). You can view the live video and manage the camera with the client software.
Follow the installation prompts to install the software. The control panel and live view interface of VMS Client Software are shown as bellow.

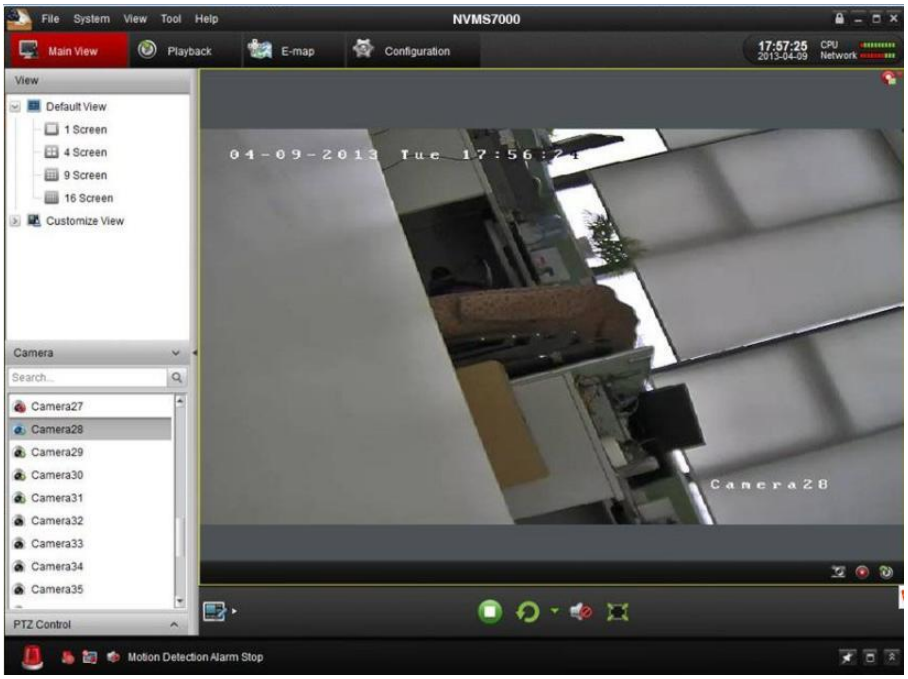


Figure 3-6 VMS CLIENT SOFTWARE Live View

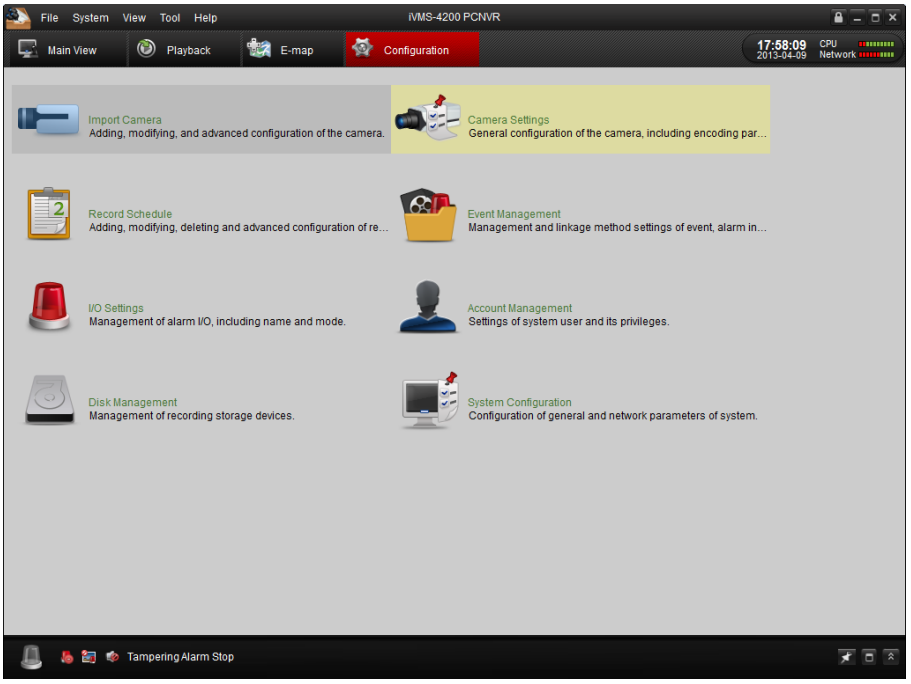


Figure 3-7 VMS CLIENT SOFTWARE Configuration Panel

Note: For detailed information about VMS Client software, please refer to the user manual of the VMS CLIENT SOFTWARE software.

Chapter 4 Configuring the Wi-Fi Settings

Purpose:

By connecting to the wireless network, you don't need to use cable of any kind for network connection, which is very convenient for the actual surveillance application.

Note:

This chapter is only applicable for the cameras with the Wi-Fi module built-in.

4.1 Configuring Wi-Fi Connection in Manage and Ad-hoc Modes

Before you start:

A wireless network must be configured.

Wireless Connection in Managed Mode

Steps:

1. Enter the Wi-Fi configuration interface.

Configuration> Advanced Configuration> Network> Wi-Fi

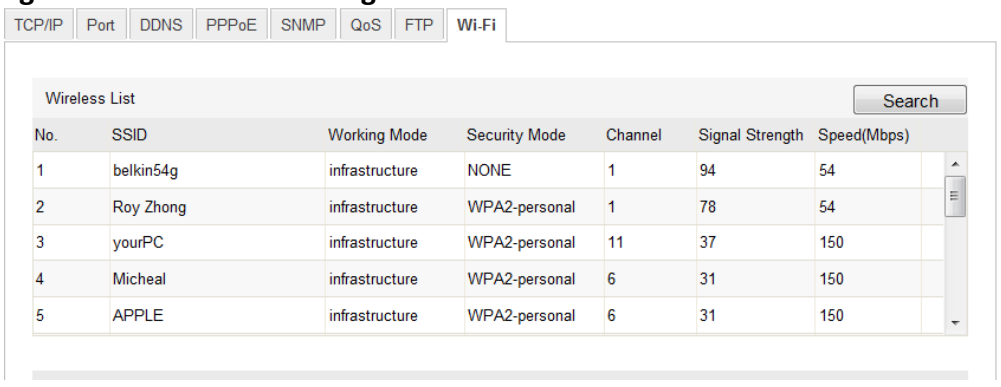


Figure 4-1 Wireless Network List

2. Click Search button to search the online wireless connections.

3. Click to choose a wireless connection on the list.

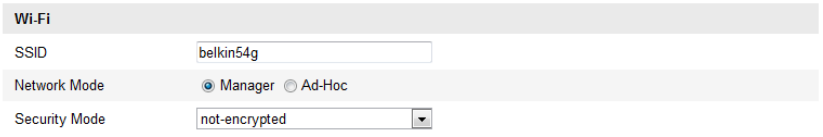


Figure 4-2 Wi-Fi Setting- Managed Mode

4. Check the check box to select the *Network Mode* as *Managed,* and the *Security mode* and the *Encryption Type* of the network is automatically shown when you select the wireless network, please don't change it manually.

Note: These parameters are exactly identical with those of the router.

5. Enter the key to connect the wireless network. The key should be that of the wireless network connection you set on the router.

Wireless Connection in Ad-hoc Mode

If you choose the Ad-hoc mode, you don't need to connect the wireless camera via a router. The scenario is the same as you connect the camera and the PC directly with a network cable.

Steps:

1. Choose Ad-hoc mode.

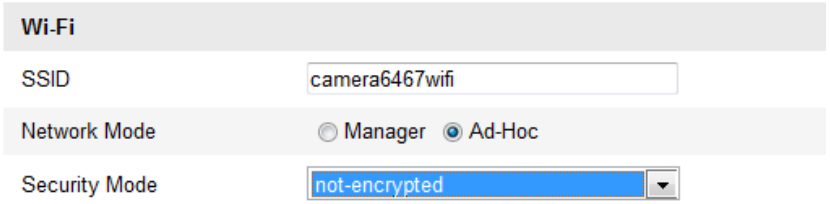


Figure 4-3 Wi-Fi Setting- Ad-hoc

2. Customize a SSID for the camera.
3. Choose the Security Mode of the wireless connection.

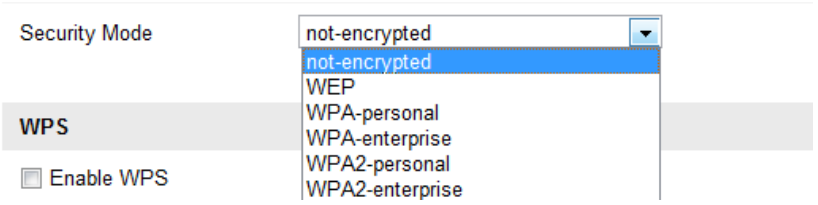


Figure 4-4

Figure 4-5 Security Mode- Ad-hoc Mode

4. Enable the wireless connection function for your PC.
5. On the PC side, search the network and you can see the SSID of the camera listed.

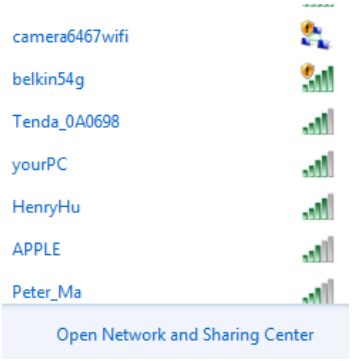
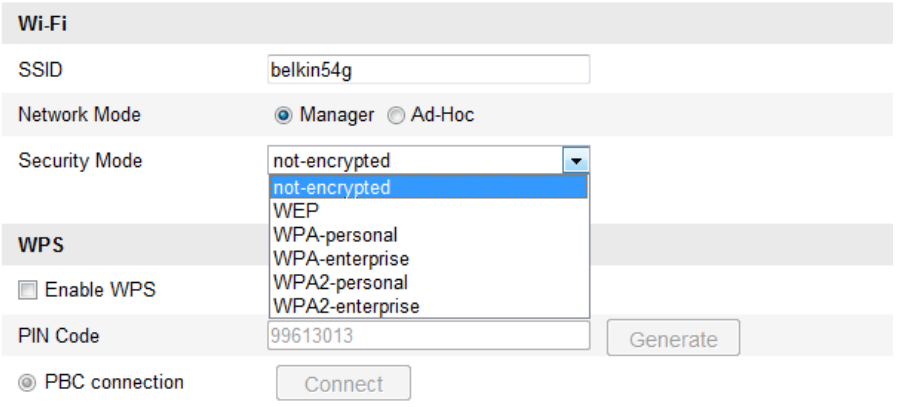


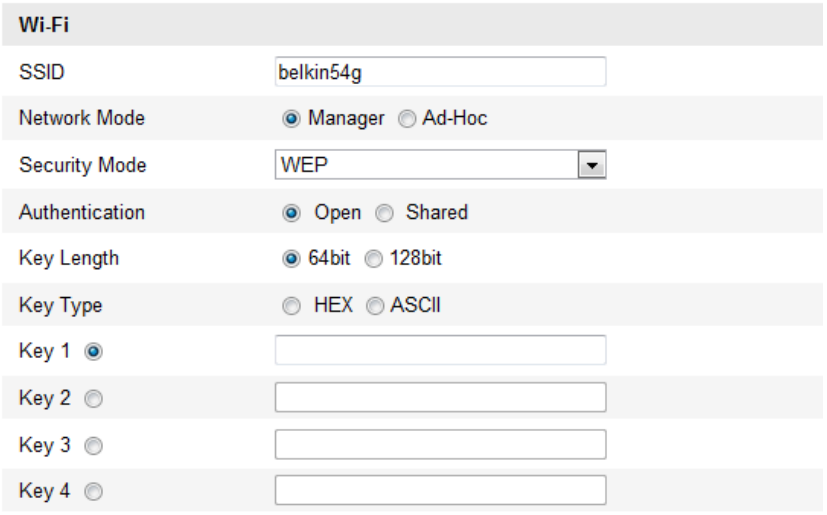
Figure 4-6 Ad-hoc Connection Point

6. Choose the SSID and connect.

Security Mode Description:



You can choose the Security Mode as not-encrypted, WEP, WPA-personal, WPA-enterprise, WPA2-personal, WPA2-enterprise.
WEP mode:



●Authentication - Select Open or Shared Key System Authentication, depending on the method used by your access point. Not all access points have this option, in which case they probably use Open System, which is sometimes known as SSID

Authentication.

●*Key length* - This sets the length of the key used for the wireless encryption, 64 or 128 bit. The encryption key length can sometimes be shown as 40/64 and 104/128.

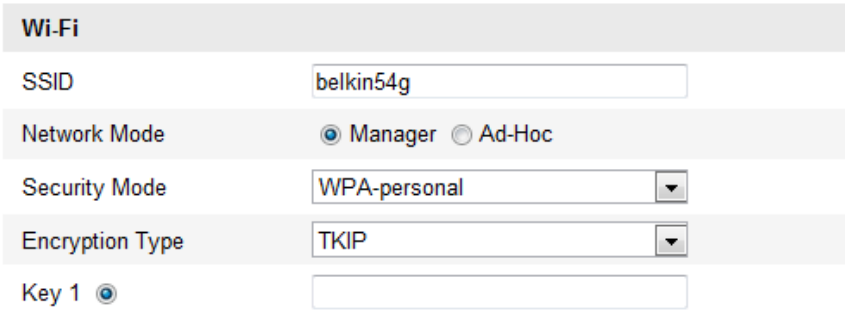
●*Key type - The key types available depend on the access point being used. The following options are available:*

HEX - Allows you to manually enter the hex key.

ASCII - In this method the string must be exactly 5 characters for 64-bit WEP and 13 characters for 128-bit WEP.

WPA-personal and WPA2-personal Mode:

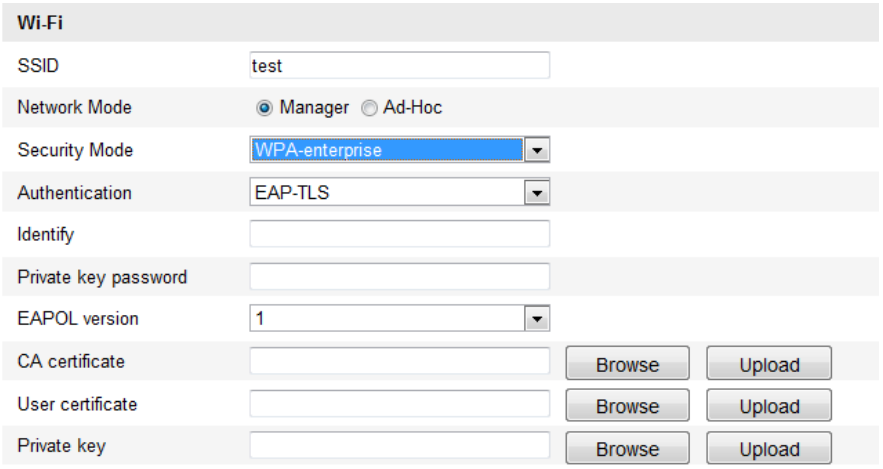
Enter the required Pre-shared Key for the access point, which can be a hexadecimal number or a pass phrase.



WPA- enterprise and WPA2-enterprise Mode:

Choose the type of client/server authentication being used by the access point; EAP-TLS or EAP-PEAP.

EAP-TLS



●Identity - Enter the user ID to present to the network.

●Private key password – Enter the password for your user ID.

●EAPOL version - Select the version used (1 or 2) in your access point.

●CA Certificates - Upload a CA certificate to present to the access point for authentication.

EAP-PEAP:

●User Name - Enter the user name to present to the network
●Password - Enter the password of the network
●PEAP Version - Select the PEAP version used at the access point.
●Label - Select the label used by the access point.
●EAPOL version - Select version (1 or 2) depending on the version used at the access point
●CA Certificates - Upload a CA certificate to present to the access point for authentication

4.2 Easy Wi-Fi Connection with WPS function

Purpose:

The setting of the wireless network connection is never easy. To avoid the complex setting of the wireless connection you can enable the WPS function.

WPS (Wi-Fi Protected Setup) refers to the easy configuration of the encrypted connection between the device and the wireless router. The WPS makes it easy to add new devices to an existing network without entering long pass phrases. There are two modes of the WPS connection, the PBC mode and the PIN mode.

Note: If you enable the WPS function, you don't need to configure the parameters such as the encryption type and you don't need to know the key of the wireless connection.

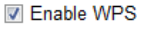
Steps:

Figure 4-7 Wi-Fi Settings - WPS

Figure 4-7 Wi-Fi Settings - WPS

PBC Mode**:**

PBC refers to the Push-Button-Configuration, in which the user simply has to push a button, either an actual or virtual one (as the Connect button on the configuration interface of the IE browser), on both the Access Point (and a registrar of the network) and the new wireless client device.

1. Check the check box of  to enable WPS.

2. Choose the connection mode as PBC.

Note: Support of this mode is mandatory for both the Access Points and the connecting devices.

3. Check on the Wi-Fi router to see if there is a WPS button. If yes push the button and you can see the indicator near the button start flashing, which means the WPS function of the router is enabled. For detailed operation, please see the user guide of the router.
4. Push the WPS button to enable the function on the camera.

If there is not a WPS button on the camera, you can also click the virtual button to enable the PBC function on the web interface.

Click button.

When the PBC mode is both enabled in the router and the camera, the camera and the wireless network is connected automatically.

PIN Mode:

The PIN mode requires a Personal Identification Number (PIN) to be read from either a sticker or the display on the new wireless device. This PIN must then be entered to connect the network, usually the Access Point of the network.

Steps:

1. Choose a wireless connection on the list and the SSID is shown.

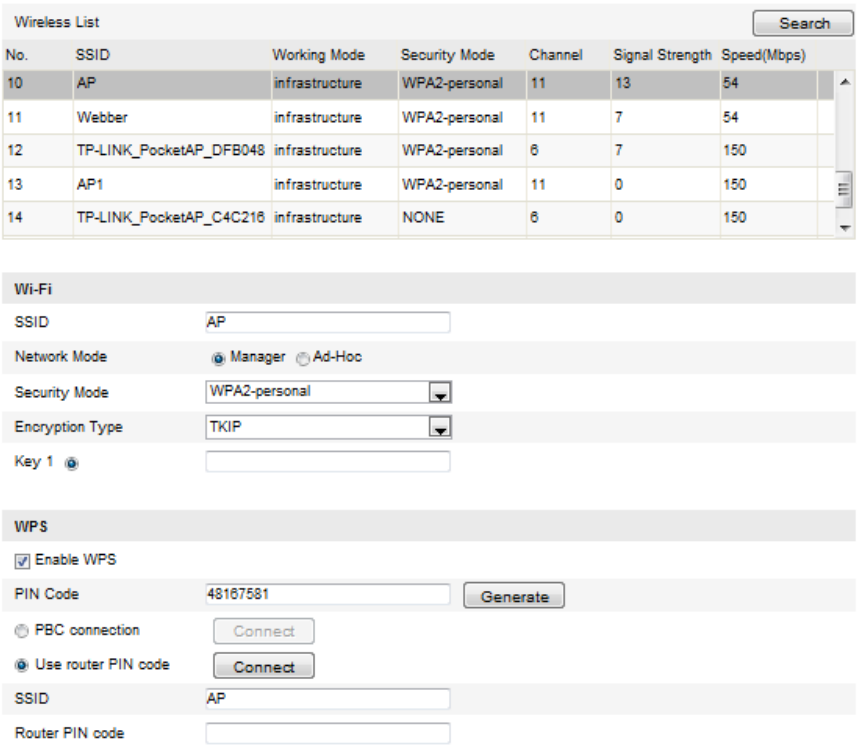

Wireless List
Search
No. SSID Working Mode Security Mode Channel Signal Strength Speed(Mbps)
10 AP infrastructure WPA2-personal 11 13 54
11 Webber infrastructure WPA2-personal 11 7 54
12 TP-LINK_PocketAP_DFB048 infrastructure WPA2-personal 6 7 150
13 AP1 infrastructure WPA2-personal 11 0 150
14 TP-LINK_PocketAP_C4C216 infrastructure NONE 6 0 150
Wi-Fi
SSID AP
Network Mode Manager Ad-Hoc
Security Mode WPA2-personal
Encryption Type TKIP
Key 1
WPS
Enable WPS
PIN Code 48167581 Generate
PBC connection Connect
Use router PIN code Connect
SSID AP
Router PIN code

Figure 4-8 Wi-Fi Settings – WPS PIN Mode

2. Choose the Use router PIN code .

If the PIN code is generated from the router side, you should enter the PIN code you get from the router side in the Router PIN code field.

3. Click Connect button.

Or

You can generate the PIN code on the camera side. And the expired time for the PIN code is 120 seconds.

1. Click Generate

PIN Code 48167581 Generate

2. Enter the code to the router, in the example, enter 48167581 to the router.

4.3 IP Property Settings for Wireless Network Connection

The default IP address of wireless network interface controller is 192.168.1.64. When you connect the wireless network you can change the default IP.

Steps:

1. Enter the TCP/IP configuration interface.

Configuration> Advanced Configuration> Network> TCP/IP

or

Configuration> Basic Configuration> Network> TCP/IP

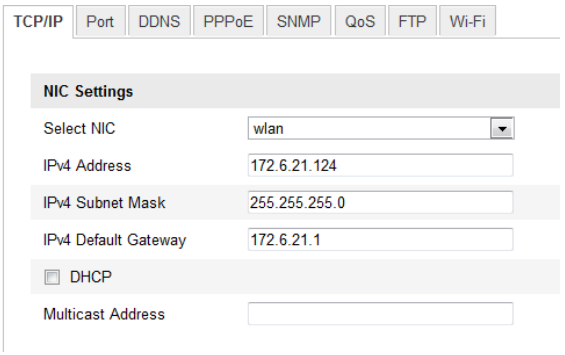


Figure 4-9 TCP/IP Settings

2. Select the NIC as WLAN.
3. Customize the IPv4 address, the IPv4 Subnet Mask and the Default Gateway.

The setting procedure is the same with that of LAN.

If you want to be assigned the IP address you can check the check box to enable the DHCP.

Chapter 5 Live View

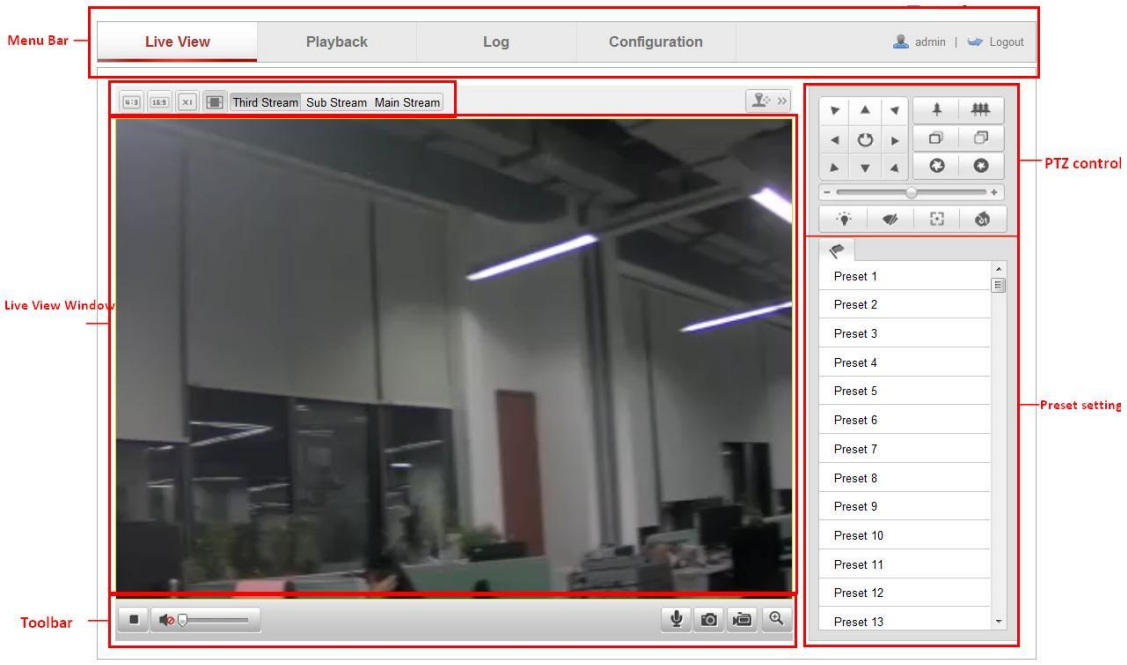
5.1 Live View Page

Purpose:

The live video page allows you to view live video, capture images, utilize PTZ control, set/call presets and configure video parameters.

Log in the network camera to enter the live view page, or you can click Live View on the menu bar of the main page to enter the live view page.

Descriptions of the live view page:



Live View Page

Live View Page

Menu Bar:

Click each tab to enter Live View, Playback, Log and Configuration page respectively.

Live View Window:

Display the live video.

Toolbar:

Operations on the live view page: live view, capture, record, audio on/off, two-way audio, etc.

PTZ Control:

Panning, tilting and zooming actions of the camera and the lighter and wiper control (if it supports PTZ function or an external pan/tilt unit has been installed).

Preset Setting/Calling:

Set and call the preset for the camera (if supports PTZ function or an external

pan/tilt unit has been installed).

Live View Parameters:

Configure the image size and stream type of the live video.

5.2 Starting Live View

In the live view window as shown in Figure 5-2, click on the toolbar to start the live view of the camera.

Figure 5-1 Live View Toolbar

Table 5-1 Descriptions of the Toolbar

Icon	Description
/	Start/Stop live view
	Manually capture the pictures displayed in live view and then save it as a JPEG file.
/	Manually start/stop recording.
	Audio on and adjust volume /Mute.
	Turn on/off microphone.
/	Turn on/off 3D zooming function.

Note: Before using the two-way audio function or recording with audio, please set the Stream Type to **Video & Audio** referring to *Section 5.4.*

Full-screen Mode

You can double-click on the live video to switch the current live view into full-screen or return to normal mode from the full-screen.

Please refer to the following sections for more information:

- Configuring remote recording in *Section 6.2* ***Configuring Recording Schedule***.
- Setting the image quality of the live video in *Section 5.1* ***Configuring Local Parameters*** *and Section 5.4.1* ***Configuring Video Settings***.
- Setting the OSD text on live video in *Section 5.5.2* ***Configuring OSD Settings***.

5.3 Recording and Capturing Pictures Manually

In the live view interface, click on the toolbar to capture the live pictures or

click to record the live video. The saving paths of the captured pictures and clips can be set on the **Configuration > Local Configuration** page. To configure remote scheduled recording, please refer to *Section 6.2*.

***Note*:** The captured image will be saved as a JPEG file in your computer.

5.4 Operating PTZ Control

Purpose:

In the live view interface, you can use the PTZ control buttons to utilize pan/tilt/zoom control of the camera.

Before you start:

To utilize PTZ control, the camera connected to the network must support the PTZ function or a pan/tilt unit has been installed to the camera. Please properly set the PTZ parameters on RS-485 Settings page referring to *Section 10.6* ***RS-485 Settings***.

5.4.1 PTZ Control Panel

On the live view page, click to show the PTZ control panel or click to hide it.

Click the direction buttons to control the pan/tilt movements.

Figure 5-2 PTZ Control Panel

Click the zoom/iris/focus buttons to utilize lens control.

***Notes*:**

- There are 8 direction arrows (, , , , , , ,) in the live view window when you click and drag the mouse in the relative positions.
- For the cameras which support lens movements only, the direction buttons are invalid.

Table 5-2 Descriptions of PTZ Control Panel

Button	Description
	Zoom in/out

	Focus near/far
	Iris open/close
	Light on/off
	Wiper on/off
	One-touch focus
	Initialize lens
	Adjust speed of pan/tilt movements

5.4.2 Setting / Calling a Preset

●Setting a Preset:

1. In the PTZ control panel, select a preset number from the preset list.

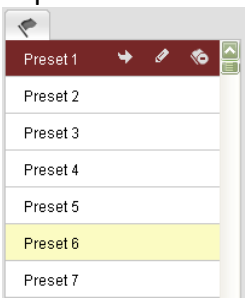


Figure 5-3 Setting a Preset

2. Use the PTZ control buttons to move the lens to the desired position.
   - Pan the camera to the right or left.
   - Tilt the camera up or down.
   - Zoom in or out.
   - Refocus the lens.
3. Click to finish the setting of the current preset.
4. You can click to delete the preset.

Note: You can configure up to 128 presets.

●Calling a Preset:

This feature enables the camera to point to a specified preset scene manually or when an event takes place.

For the defined preset, you can call it at any time to the desired preset scene.

In the PTZ control panel, select a defined preset from the list and click to call the preset.

Figure 5-4 Calling a Preset

5.5 Configuring Live View Parameters

Purpose:

You can select the stream type and adjust the image size on the live view page.

- Click Main Stream , Third Stream or Sub Stream tab under the menu bar of the live view interface to select the stream type as main stream or sub-stream for live viewing.
- Click each tab

to set the image size to 4:3, 16:9, original or auto fix.

Note: *Please refer to Section 5.4.1 Configuring Video Settings* for more detailed settings about video parameters.

Chapter 6 Network Camera Configuration

6.1 Configuring Local Parameters

Note: The local configuration refers to the parameters of the live view, record files and captured pictures. The record files and captured pictures are the ones you record and captured using the web browser and thus the saving paths of them are on the PC running the browser.

Steps:

1. Enter the Local Configuration interface:
   Configuration > Local Configuration

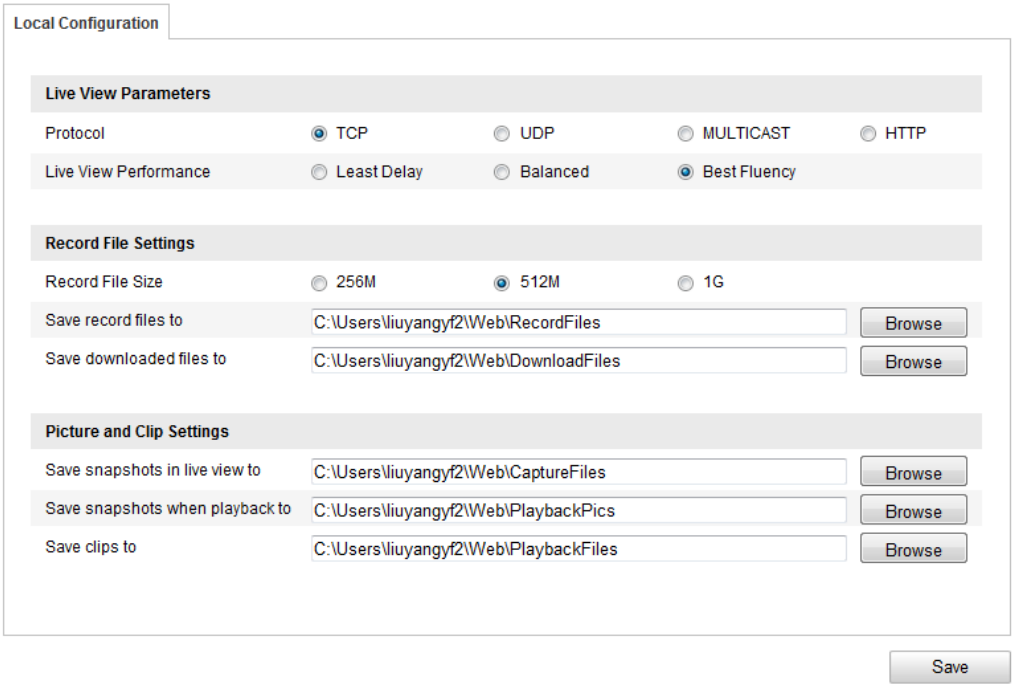


Figure 6-1 Local Configuration Interface

2. Configure the following settings:

- **Live View Parameters:** Set the protocol type and live view performance.
  - **Protocol Type:** TCP, UDP, MULTICAST and HTTP are selectable.
    TCP: Ensures complete delivery of streaming data and better video quality, yet the real-time transmission will be affected.
    UDP: Provides real-time audio and video streams.
    HTTP: Allows the same quality as of TCP without setting specific ports for streaming under some network environments.
    MULTICAST: It's recommended to select MCAST type when using the

Multicast function. For detailed information about Multicast, refer to *Section 6.3.1* ***TCP/IP Settings****.*

- **Live View Performance:** Set the live view performance to Least Delay, Balanced or Best Fluency.

- **Record File Settings:** Set the saving path of the recorded video files. Valid for the record files you recorded with the web browser.
  - **Record File Size:** Select the packed size of the manually recorded and downloaded video files to 256M, 512M or 1G. After the selection, the maximum record file size is the value you selected.
  - **Save record files to:** Set the saving path for the manually recorded video files.
  - **Save downloaded files to:** Set the saving path for the downloaded video files in playback mode.
- **Picture and Clip Settings:** Set the saving paths of the captured pictures and clipped video files. Valid for the pictures you captured with the web browser.
  - **Save snapshots in live view to:** Set the saving path of the manually captured pictures in live view mode.
  - **Save snapshots when playback to:** Set the saving path of the captured pictures in playback mode.
  - **Save clips to:** Set the saving path of the clipped video files in playback mode.

***Note*:** You can click Browse to change the directory for saving the clips and pictures.

3. Click Save to save the settings.

6.2 Configuring Time Settings

Purpose:

You can follow the instructions in this section to configure the time synchronization and DST settings.

Steps:

1. Enter the Time Settings interface:
   Configuration > Basic Configuration > System > Time Settings
   Or Configuration > Advanced Configuration > System > Time Settings

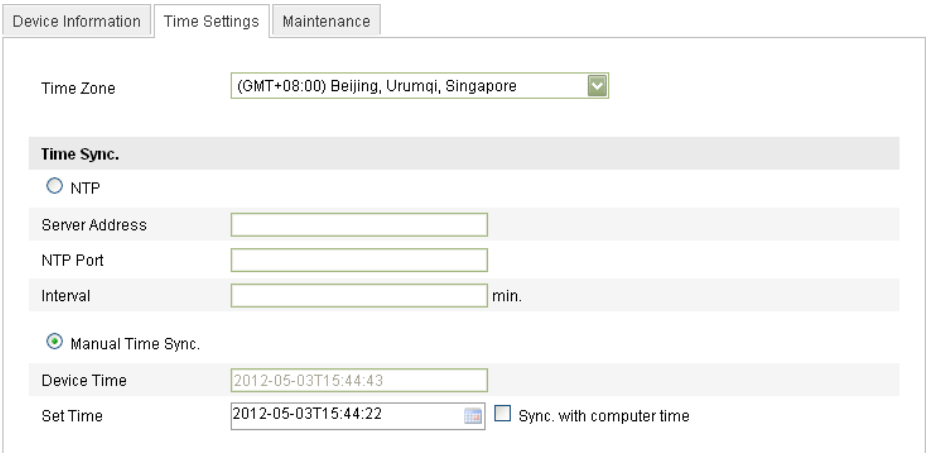


Figure 6-2 Time Settings

●Select the Time Zone.

Select the Time Zone which is the closest to the location of the camera from the drop-down menu.

●Synchronizing Time by NTP Server.

(1) Check the check box to enable the **NTP** function.

(2) Configure the following settings:

Server Address: IP address of NTP server.

NTP Port: Port of NTP server.

Interval: The time interval between the two synchronizing actions with NTP server.

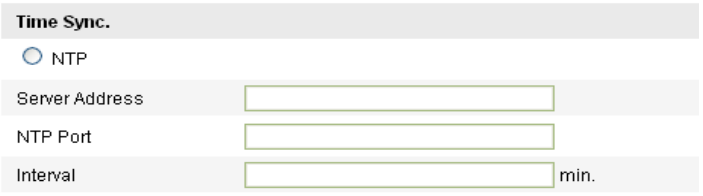


Figure 6-3 Time Sync by NTP Server

Note: If the camera is connected to a public network, you should use a NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the camera is set in a customized network, NTP software can be used to establish a NTP server for time synchronization.

●Synchronizing Time Synchronization Manually

Enable the Manual Time Sync function and then click to set the system time from the pop-up calendar.

Note: You can also check the **Sync with computer time check box** to synchronize the
time of the camera with that of your computer.

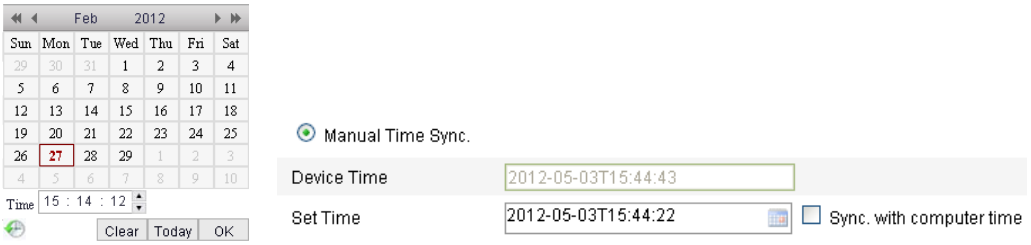


Figure 6-4 Time Sync Manually

●Click the DST tab page to enable the DST function and Set the date of the DST period.

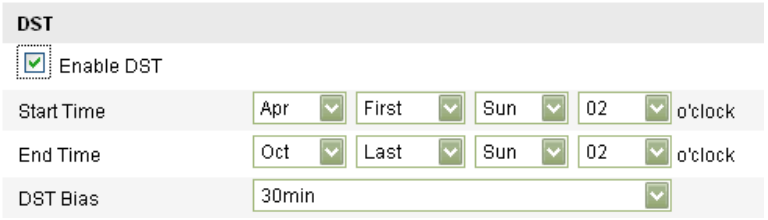


Figure 6-5 DST Settings

2. Click Save to save the settings.

6.3 Configuring Network Settings

6.3.1 Configuring TCP/IP Settings

Purpose:

TCP/IP settings must be properly configured before you operate the camera over network. The camera supports both the IPv4 and IPv6. Both versions may be configured simultaneously without conflicting to each other, and at least one IP version should be configured.

Steps:

1. Enter TCP/IP Settings interface:
   Configuration > Basic Configuration > Network > TCP/IP
   Or **Configuration > Advanced Configuration > Network > TCP/IP**

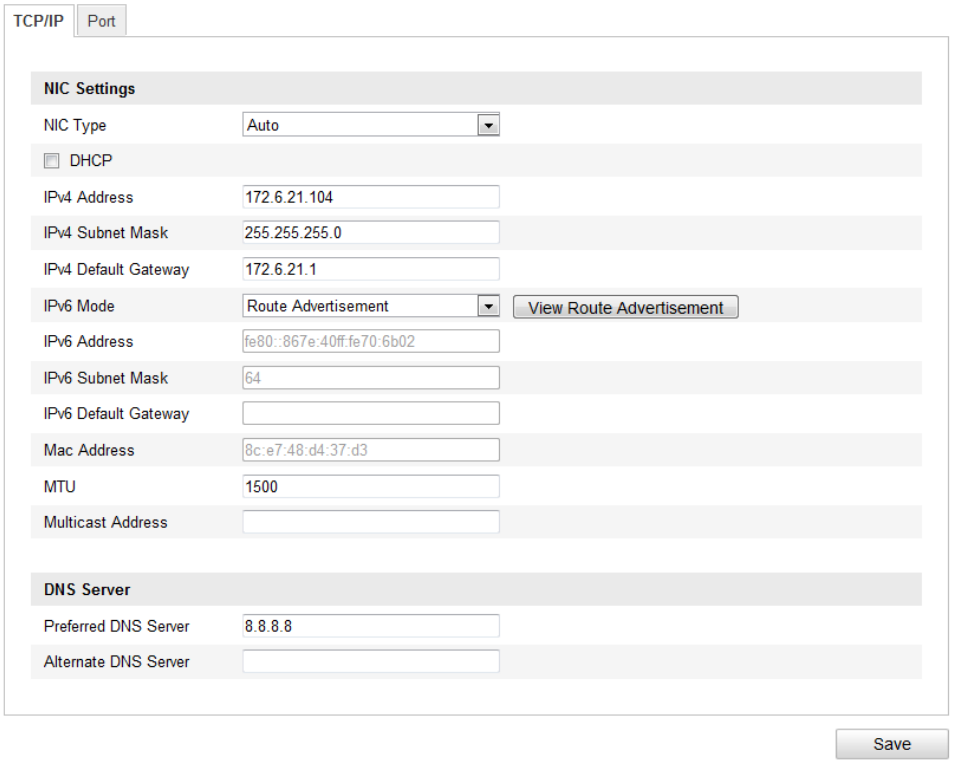


Figure 6-6 TCP/IP Settings

2. Configure the basic network settings, including the NIC Type, IPv4 or IPv6 Address, IPv4 or IPv6 Subnet Mask, IPv4 or IPv6 Default Gateway, MTU settings and Multicast Address.

***Notes*:**

●The valid value range of MTU is 500 ~ 1500.

●The Multicast sends a stream to the multicast group address and allows multiple clients to acquire the stream at the same time by requesting a copy from the multicast group address. Before utilizing this function, you have to enable the Multicast function of your router.

3. Click Save to save the above settings.

***Note*:** it will ask for a reboot for the settings to take effect.

6.3.2 Configuring Port Settings

Purpose:

You can set the port numbers of the camera: the HTTP port, the RTSP port and the Server/SDK ports.

Steps:

1. Enter the Port Settings interface:
   Configuration > Basic Configuration > Network > Port
   Or **Configuration > Advanced Configuration > Network > Port**

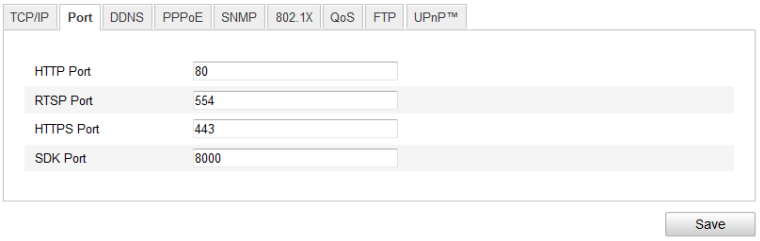


Figure 6-7 Port Settings

2. Set the HTTP port, RTSP port and Server/SDK port of the camera.
   HTTP Port: The default port number is 80, and can be changed to any port range 1024 to 65535.
   RTSP Port: The default port number is 554.
   HTTPS Port: The default port number is 443, and can be changed to any port range 1024 to 65535*.
   Server/SDK Port: The default SDK port number is 8000.
   (*The HTTPS port is not required to be configured or forwarded to view the network camera online.)

3. Click Save to save the settings.

***Note*:** The interface will ask for a reboot for the settings to take effect.

6.3.3 Configuring PPPoE Settings

Steps:

1. Enter the PPPoE Settings interface:
   Configuration >Advanced Configuration > Network > PPPoE

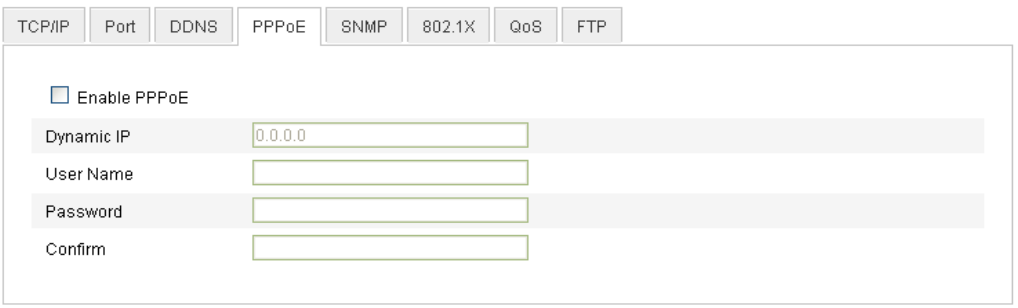


Figure 6-8 PPPoE Settings

2. Check the **Enable PPPoE check box** to enable this feature.
3. Enter **User Name**, **Password**, and **Confirm** password for PPPoE access.

Note: The User Name and Password should be assigned by your ISP.

4. Click Save to save and exit the interface.

***Note*:** it will ask for a reboot for the settings to take effect.

6.3.4 Configuring DDNS Settings

Purpose:

If your camera is set to use PPPoE as its default network connection, you can use the Dynamic DNS (DDNS) for network access.

***Before you start*:**

Registration on the DDNS server is required before configuring the DDNS settings of the camera.

Steps:

1. Enter the DDNS Settings interface:

Configuration > Advanced Configuration > Network > DDNS

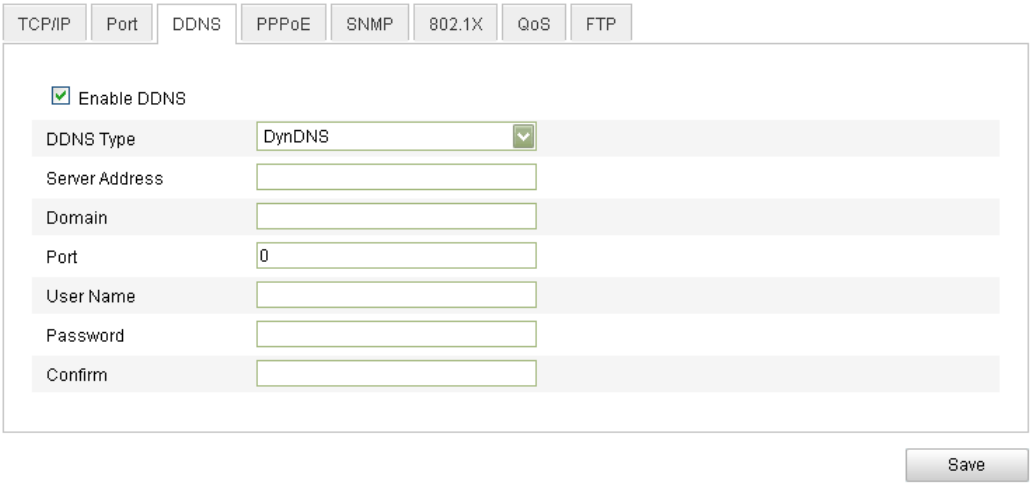


Figure 6-9 DDNS Settings

2. Check the **Enable DDNS check box** to enable this feature.
3. Select **DDNS Type**. Two DDNS types are selectable: IPServer and DynDNS.
   - DynDNS:

   Steps:

   (1) Enter **Server Address** of DynDNS (Example: members.dyndns.org).
   (2) In the **Domain** text field, enter the domain name obtained from the DynDNS website.
   (3) Enter the **Port** of DynDNS server.
   (4) Enter the **User Name** and **Password** registered on the DynDNS website.
   (5) Click Save to save the settings.

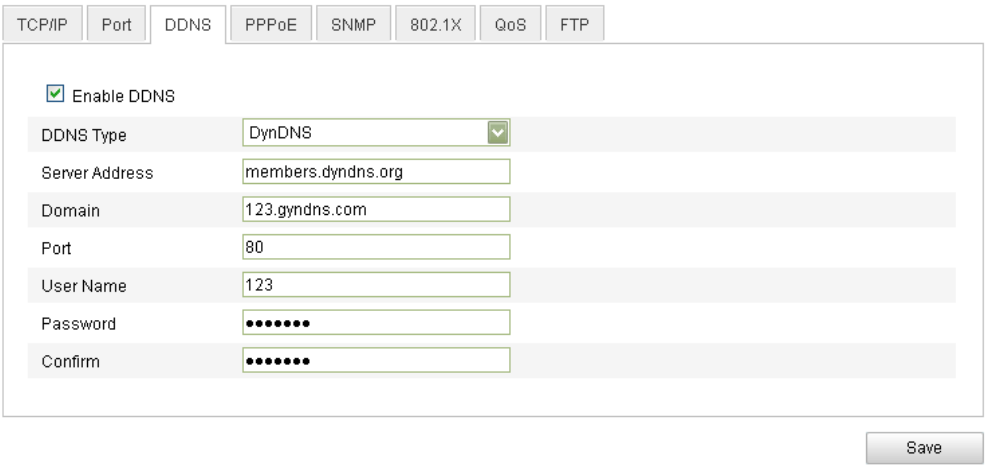


Figure 6-10 DynDNS Settings

- IP Server:

Steps:

(1) Enter the Server Address of the IP Server.

(2) Click Save to save the settings.

Note: For the IP Server, you have to apply a static IP, subnet mask, gateway and preferred DNS from the ISP. The **Server Address** should be entered with the static IP address of the computer that runs the IP Server software.

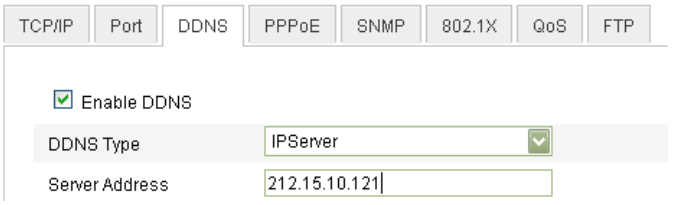


Figure 6-11 IPServer Settings

Note: For the US and Canada area, you can enter 173.200.91.74 as the server address.

device alias in the server.

(4) Click Save to save the new settings.

Note: It will ask for a reboot for the settings to take effect.

6.3.5 Configuring SNMP Settings

Purpose:

You can set the SNMP function to get camera status, parameters and alarm related information and manage the camera remotely when it is connected to the network.

Before you start:

Before setting the SNMP, please download the SNMP software and manage to receive the camera information via SNMP port. By setting the Trap Address, the camera can send the alarm event and exception messages to the surveillance center. ***Note:*** The SNMP version you select should be the same as that of the SNMP software. And you also need to use the different version according to the security level you required. SNMP v1 provides no security and SNMP v2 requires password for access. And SNMP v3 provides encryption and if you use the third version, HTTPS protocol must be enabled.

Steps:

1. Enter the SNMP Settings interface:
   Configuration > Advanced Configuration > Network > SNMP

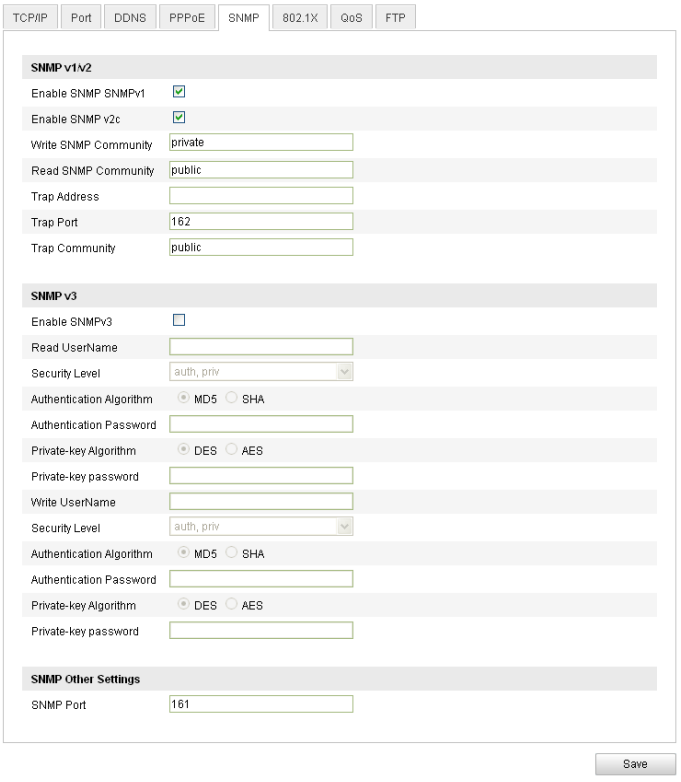


Figure 6-12 SNMP Settings

2. Check the corresponding version check box (Enable SNMP SNMPv1 ,

Enable SNMP v2c , Enable SNMPv3) to enable the feature.

3. Configure the SNMP settings.
   Note: The settings of the SNMP software should be the same as the settings you configure here.

4. Click Save to save and finish the settings.

Note: it will ask for a reboot for the settings to take effect.

6.3.6 Configuring 802.1X Settings

Purpose:
The IEEE 802.1X standard is supported by the network cameras, and when the feature is enabled, the camera data is secured and user authentication is needed when connecting the camera to the network protected by the IEEE 802.1X.
Before you start:
The authentication server must be configured. Please apply and register a user name and password for 802.1X in the server.
Steps:

1. Enter the 802.1X Settings interface:
   Configuration > Advanced Configuration > Network > 802.1X

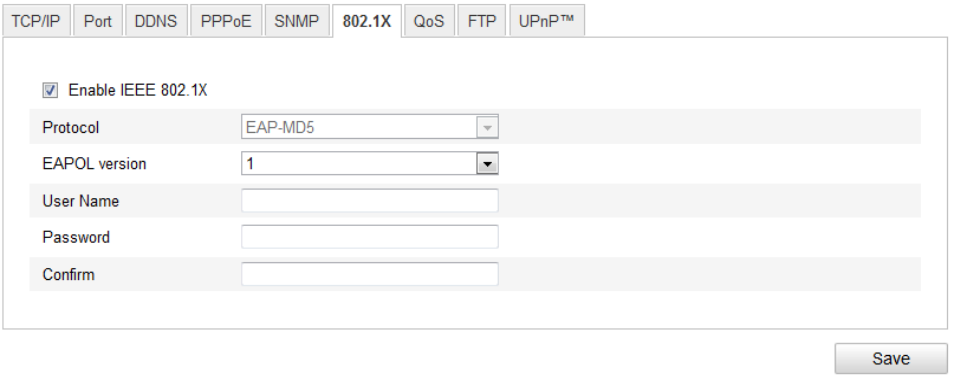


Figure 6-13 802.1X Settings

2. Check the **Enable IEEE 802.1X check box** to enable the
3. Configure the 802.1X settings, including EAPOL version, user name and password.
   Note: The EAPOL version must be identical with that of the router or the switch.
4. Enter the user name and password to access the server.
5. Click Save to finish the settings.

Note: it will ask for a reboot for the settings to take effect.

6.3.7 Configuring QoS Settings

Purpose:

QoS (Quality of Service) can help solve the network delay and network congestion by configuring the priority of data sending.

Steps:

1. Enter the QoS Settings interface:
   Configuration >Advanced Configuration > Network > QoS

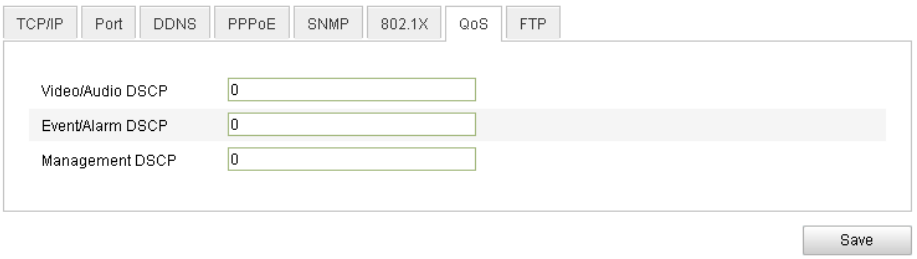


Figure 6-14 QoS Settings

2. Configure the QoS settings, including video / audio DSCP, event / alarm DSCP and Management DSCP.
   The valid value range of the DSCP is 0-63. The bigger the DSCP value is the higher the priority is.
   Note: DSCP refers to the Differentiated Service Code Point; and the DSCP value is used in the IP header to indicate the priority of the data.

3. Click Save to save the settings.

***Note*:** it will ask for a reboot for the settings to take effect.

6.3.8 Configuring FTP Settings

Purpose:

You can configure the FTP server related information to enable the uploading of the captured pictures to the FTP server. The captured pictures can be triggered by events or a timing snapshot task.

Steps:

1. Enter the FTP Settings interface:
   Configuration >Advanced Configuration > Network > FTP

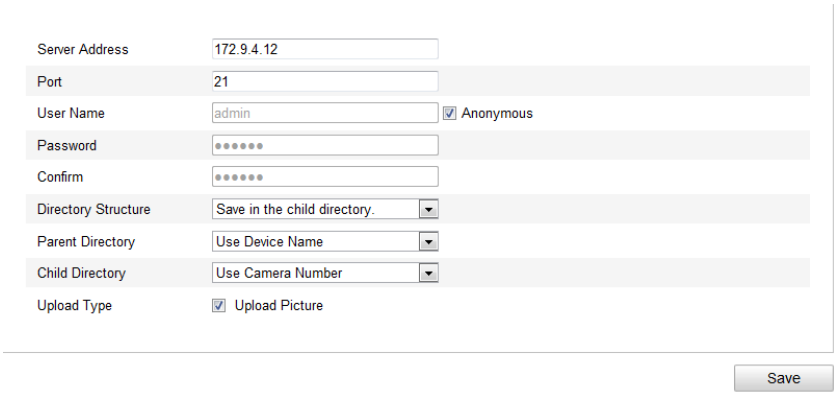


Figure 6-15 FTP Settings

2. Configure the FTP settings; and the user name and password are required for login the FTP server.
   Directory: In the **Directory Structure** field, you can select the root directory, parent directory and child directory. When the parent directory is selected, you have the option to use the Device Name, Device Number or Device IP for the name of the directory; and when the Child Directory is selected, you can use the Camera Name or Camera No. as the name of the directory.
   Upload type: To enable uploading the captured picture to the FTP server.
   Anonymous Access to the FTP Server (in which case the user name and password won't be requested.): Check the Anonymous check box to enable the anonymous access to the FTP server.
   Note: The anonymous access function must be supported by the FTP server.

3. Click Save to save the settings.

   Notes: If you want to upload the captured pictures to FTP server, you have to enable the continuous snapshot or event-triggered snapshot on **Snapshot** page. For detailed information, please refer to the *Section 6.6.8.*

6.3.9 Configuring UPnP™ Settings

Universal Plug and Play (UPnP™) is a networking architecture that provides compatibility among networking equipment, software and other hardware devices. The UPnP protocol allows devices to connect seamlessly and to simplify the implementation of networks in the home and corporate environments.
With the function enabled, you don't need to configure the port mapping for each port, and the camera is connected to the Wide Area Network via the router.
Steps:
1. Enter the UPnP™ settings interface.
   Configuration >Advanced Configuration > Network > UPnP
2. Check the check box to enable the UPnP™ function.
   The name of the device when detected online can be edited.

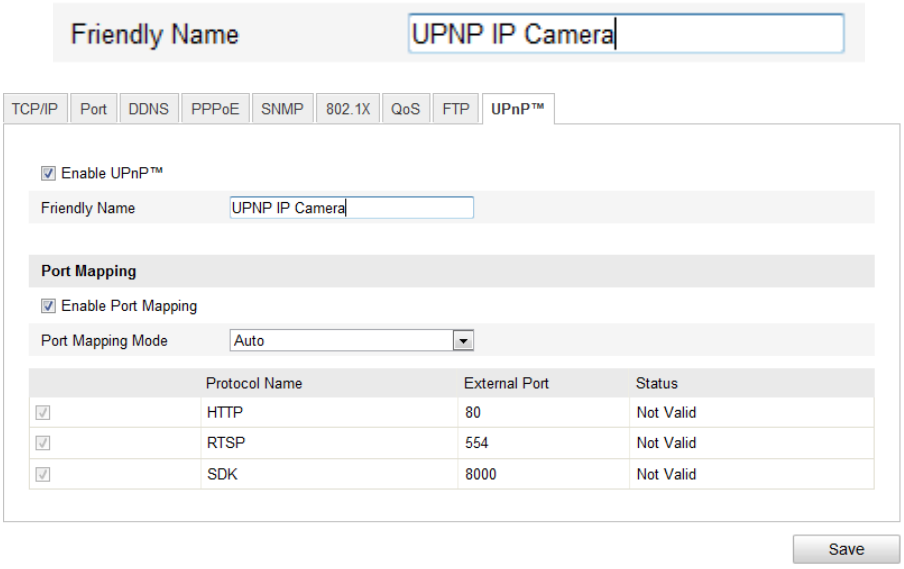
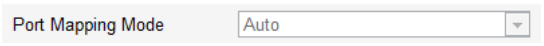
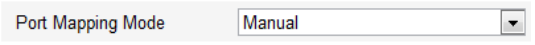


Figure 6-16 Configure UPnP Settings

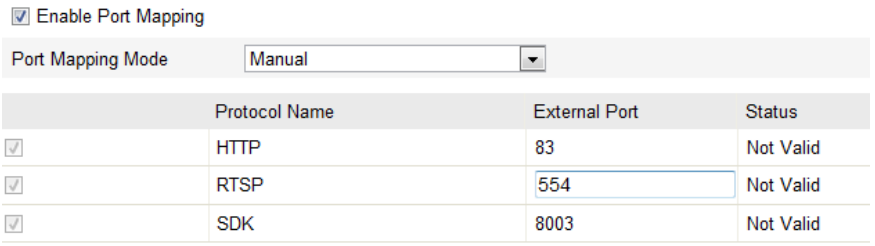
To port mapping with the default port numbers:

Choose 

To port mapping with the customized port numbers:

Choose 

And you can customize the value of the port number by yourself.



3. Click

to save the settings.

6.4 Configuring Video and Audio Settings

6.4.1 Configuring Video Settings

Steps:

1. Enter the Video Settings interface:
   Configuration > Basic Configuration > Video/Audio > Video
   Or Configuration > Advanced Configuration > Video/Audio > Video

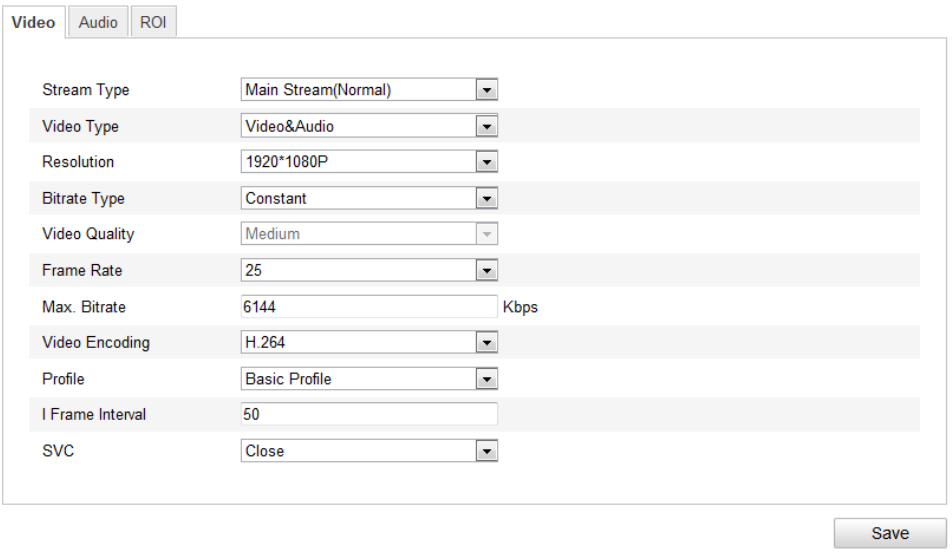


Figure 6-17 Configure Video Settings

2. Select the **Stream Type** of the camera to main stream (normal), sub-stream or third stream.
   The main stream is usually for recording and live viewing with good bandwidth, and the sub-stream and third stream can be used for live viewing when the bandwidth is limited.
3. You can customize the following parameters for the selected main stream or sub-stream:
   Video Type:
   Select the stream type to video stream, or video & audio composite stream. **The audio signal will be recorded only when the Video Type is Video & Audio**. **Resolution:**
   Select the resolution of the video output.
   Bitrate Type:
   Select the bitrate type to constant or variable.
   Video Quality:
   When bitrate type is selected as **Variable**, 6 levels of video quality are selectable.
   Frame Rate:
   Set the frame rate to 1/16~25 fps. The frame rate is to describe the frequency at which the video stream is updated and it is measured by frames per second (fps). A higher frame rate is advantageous when there is movement in the video stream, as it maintains image quality throughout.
   Max. Bitrate:
   Set the max. bitrate to 32~16384 Kbps. The higher value corresponds to the higher video quality, but the higher bandwidth is required.
   Video Encoding:
   When the Stream Type of the camera is main stream, the Video Encoding standard can be set to H.264.
   When the **Stream Type** of the camera is sub-stream, the **Video Encoding** standard can be set to H.264, MJPEG.

Profile:
Basic profile, Main Profile and High Profile for coding are selectable.
I Frame Interval:
Set the I-Frame interval to 1~400.
SVC:
Scalable video coding is an extension of the H.264/AVC standard. The technology encodes the video signal with layers; the basic layer and several enhanced layers and it is adaptive to the network condition to transfer different video streams. For example, when the bandwidth is limited, only the basic layer data is encoded and transferred. You can enable the function when you want to see the video with several terminals, such as the mobile phone with 3G network, or the personal computer with IP network.

4. Click Save to save the settings.

6.4.2 Configuring Audio Settings

Steps:
1. Enter the Audio Settings interface
   Configuration > Basic Configuration > Video / Audio > Audio
   Or **Configuration > Advanced Configuration > Video / Audio > Audio**

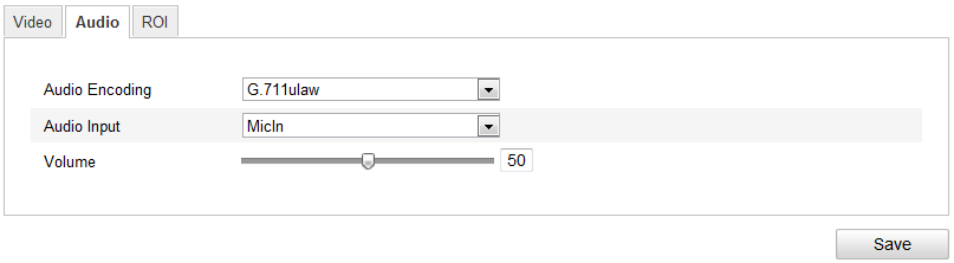


Figure 6-18 Audio Settings

2. Configure the following settings.
   Audio Encoding: G.711 ulaw, G.711alaw and G.726 are selectable.
   Audio Input: MicIn and Linein are selectable for the connected microphone and pickup respectively.

3. Click Save to save the settings.

6.4.3 Configuring ROI Encoding

Note: Only 4-series of cameras and version above supports the function.
ROI stands for the region of interest. And the ROI encoding enables you to discriminate the ROI and background information in compression, that is to say, the technology assigns more encoding resource to the region of interest to increase the

quality of the ROI whereas the background information is less focused.

Steps:

1. Enter the ROI settings interface
   Configuration > Advanced Configuration > Video / Audio >ROI
2. Draw the region of interest on the image. There are four regions can be drawn.
3. Choose the stream type to set the ROI encoding.
4. Choose the ROI type.
   There are two options for ROI encoding, the fixed region encoding and the dynamic tracking.
   - Fixed Region The fixed region encoding is the ROI encoding for the manually configured area. And you can choose the Image Quality Enhancing level for ROI encoding, and you can also name the ROI area.
   - Dynamic Tracking And the dynamic tracking refers to the ROI defined by intelligent analysis such as human face detection. You can choose the Image Quality Enhancing level for the ROI encoding.
5. Click **Save** button to save the settings.

6.5 Configuring Image Parameters

6.5.1 Configuring Display Settings

Purpose:

You can set the image quality of the camera, including brightness, contrast, saturation, hue, sharpness, etc.

Note: The Display parameters vary depending on the camera model.

Steps:

1. Enter the Display Settings interface:

Configuration > Basic Configuration> Image> Display Settings
Or Configuration > Advanced Configuration> Image> Display Settings

2. Set the image parameters of the camera.

Figure 6-19 Display Settings

Descriptions of parameter configuration

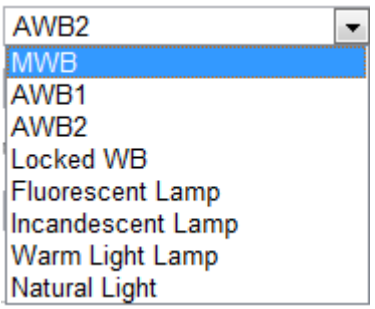
Overexposure Prevention: Enable or disable the function in this field.
Exposure Time:
Value ranges from 1⁄25 to 1⁄100,000s. Adjust it according to the lightening condition.
Iris Mode:
Auto and Manual are selectable.
Auto Iris Level:
If you choose the auto iris mode, you can set the auto iris level.
Video Standard:
50 Hz and 60 Hz are selectable. Choose according to the different video standards; normally 50Hz for PAL standard and 60Hz for NTSC standard.
Day/Night Switch:
Day, Night and Auto are selectable.
Sensitivity:
If you choose auto day/night switch, you can choose the sensitivity of the switch as high, normal and low.
Mirror：
The mirror function enables you to view another aspect of the image. You can flip the image horizontally and vertically. It can be used to view the image in the way you see it directly using your eyes.
WDR:

Wide dynamic range can be used when there is a high contrast of the bright area and the dark area of the scene.

BLC Area:

BLC area is the area sense the light intensity; Close, Up, Down, Left, Right and Center are selectable.

White Balance: The below figure shows the white balance type selectable. You can choose it according to the real condition. For example, if in the surveillance scene, there is a fluorescent lamp, you can choose the white balance type as the Fluorescent Lamp.



Digital Noise Reduction:

Close, Normal Mode and Expert Mode are selectable.

Noise Reduction Level:

For adjusting the noise reduction level and only valid when the DNR function is enabled.

Scene Mode:

Choose the scene as indoor or outdoor.

HLC:

High light compression function can be used when there are strong lights in the scene which affect the image quality.

Grey Scale:

You can choose the range of the grey scale as [0-255] or [16-235].

Corridor mode:

To make a complete use of the 16:9 aspect ratio, you can enable the corridor mode when you use the camera in a narrow view scene.

When installing, turn the camera to the 90 degrees or rotate the 3-axis lens to 90 degrees, and set the corridor mode as on, you will get a normal view of the scene with 9:16 aspect ratio to ignore the needless information such as the wall, and get more meaningful information of the scene.

6.5.2 Configuring OSD Settings

Purpose:

You can customize the camera name and time on the screen.

Steps:

1. Enter the OSD Settings interface:

Configuration > Advanced Configuration > Image > OSD Settings

Figure 6-20 OSD Settings

2. Check the corresponding checkbox to select the display of camera name, date or week if required.
3. Edit the camera name in the text field of **Camera Name**.
4. Select from the drop-down list to set the time format, date format, display mode and the OSD font size.
5. You can use the mouse to click and drag the text frame IPCamera 01 in the live view window to adjust the OSD position.

Figure 6-21 Adjust OSD Location

6. Click Save to activate above settings.

6.5.3 Configuring Text Overlay Settings

Purpose:

You can customize the text overlay.

Steps:

1. Enter the Text Overlay Settings interface:

Configuration > Advanced Configuration > Image > Text Overlay

2. Check the checkbox in front of textbox to enable the on-screen display.
3. Input the characters in the textbox.
4. Use the mouse to click and drag the red text frame

in the live view window to adjust the text overlay position.
5. Click

.

Note: There are up to 4 text overlays configurable.

Figure 6-22 Text Overlay Settings

6.5.4 Configuring Privacy Mask

Purpose:

Privacy mask enables you to cover certain areas on the live video to prevent certain spots in the surveillance area from being live viewed and recorded.

Steps:

1. Enter the Privacy Mask Settings interface:

Configuration > Advanced Configuration> Image > Privacy Mask

2. Check the checkbox of **Enable Privacy Mask** to enable this function.

3. Click Draw Area.

Figure 6-23 Privacy Mask Settings

4. Click and drag the mouse in the live video window to draw the mask area.

Note: You are allowed to draw up to 4 areas on the same image.

5. Click Stop Drawing to finish drawing or click Clear All to clear all of the areas you set without saving them.

6. Click Save to save the settings.

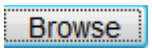
6.5.5 Configuring Picture Overlay

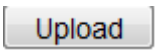
Purpose:

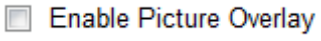
Picture overlay enables you to overlay a picture on the image.

Steps:

1. Enter the Picture Overlay Settings interface:
   Configuration > Advanced Configuration> Image > Picture Overlay

2. Click  button to add a picture from your PC.

3. Click  button to upload it.

4. Check the checkbox to enable the function. 

X Coordinate and Y Coordinate values are for the location of the picture on the image. And the Picture width and Height are for adjusting the size of the picture.

6.6 Configuring and Handling Alarms

Purpose:

This section explains how to configure the network camera to respond to alarm events, including motion detection, external alarm input, video loss, tamper-proof and exception. These events can trigger the alarm actions, such as Notify Surveillance Center, Send Email, Trigger Alarm Output, etc.

For example, when an external alarm is triggered, the network camera sends a notification to an e-mail address.

6.6.1 Configuring Motion Detection

Purpose:

Motion detection is a feature which can take alarm response actions and record the video for the motion occurred in the surveillance scene.

Tasks:

1. Set the Motion Detection Area.

Steps:

(1) Enter the motion detection settings interface

Configuration > Advanced Configuration> Events > Motion Detection

(2) Check the checkbox of Enable Motion Detection.

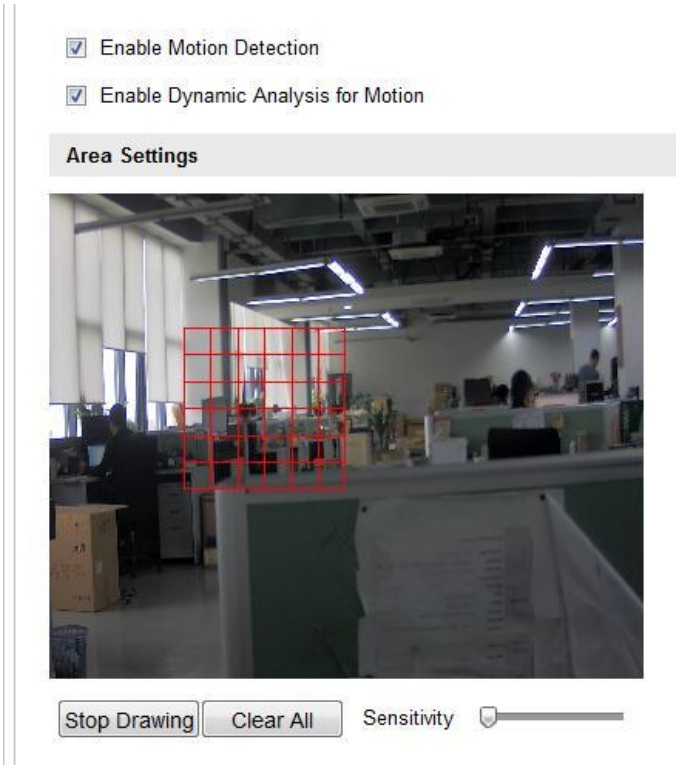


Figure 6-24 Enable Motion Detection

(3) Click Draw Area. Click and drag the mouse on the live video image to draw a motion detection area.

Note: You can draw up to 8 motion detection areas on the same image.

(4) Click Stop Drawing to finish drawing.

Note: You can click Clear All to clear all of the areas.

(5) (Optional) Move the slider Sensitivity to set the sensitivity of the detection.

2. Set the Arming Schedule for Motion Detection.

Steps:

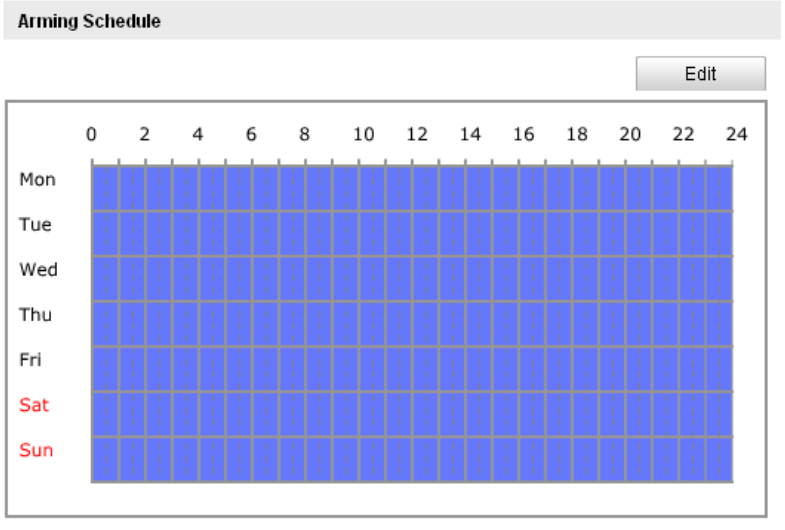


Figure 6-25 Arming Time

(1) Click Edit to edit the arming schedule. The Figure 5-28 shows the editing interface of the arming schedule.

(2) Choose the day you want to set the arming schedule.

(3) Click to set the time period for the arming schedule.

(4) After you set the arming schedule, you can copy the schedule to other days (Optional).

(5) Click OK to save the settings.

Note: The time of each period can't be overlapped. Up to 4 periods can be configured for each day.

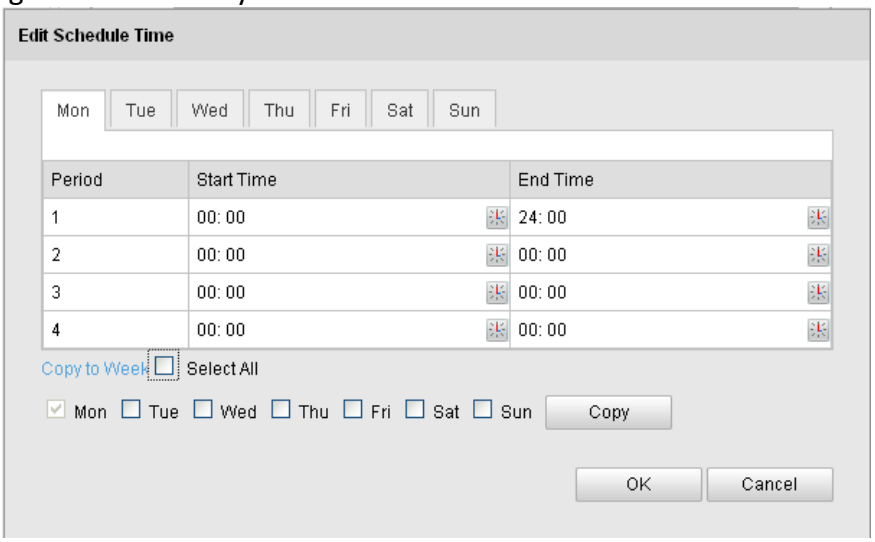


Figure 6-26 Arming Time Schedule

3. Set the Alarm Actions for Motion Detection.

Purpose:

You can specify the linkage method when an event occurs. The following contents are about how to configure the different types of linkage method.

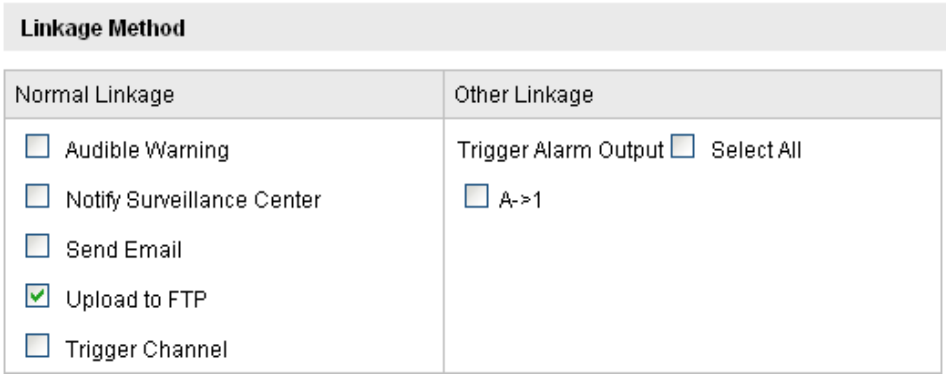


Figure 6-27 Linkage Method

Steps:

(1) Check the checkbox to select the linkage method. Audible warning, notify surveillance center, send email, upload to FTP, trigger channel and trigger alarm output are selectable (Optional).

●Audible Warning

Trigger the audible warning locally.

●Notify Surveillance Center

Send an exception or alarm signal to remote management software when an event occurs.

●Send Email

Send an email with alarm information to a user or users when an event occurs.

Note: To send the Email when an event occurs, you need to refer to *Section 6.6.6* to set the related parameters.

●Upload to FTP

Capture the image when an alarm is triggered and upload the picture to a FTP server.

Note: Set the FTP address and the remote FTP server first. Refer to *Section 6.3.8* for detailed information.

●Trigger Channel

The video will be recorded when the motion is detected. You have to set the recording schedule to utilize this function. Please refer to *Section 7.2* for detailed information.

●Trigger Alarm Output

Trigger one or more external alarm outputs when an event occurs.

Note: To trigger an alarm output when an event occurs, please refer to *Section 6.6.4* to set the related parameters.

6.6.2 Configuring Tamper-proof Alarm

Purpose:

You can configure the camera to trigger the alarm when the lens is covered and take alarm response action.

Steps:

1. Enter the Tamper-proof Settings interface:

Configuration > Advanced Configuration > Events > Tamper-proof

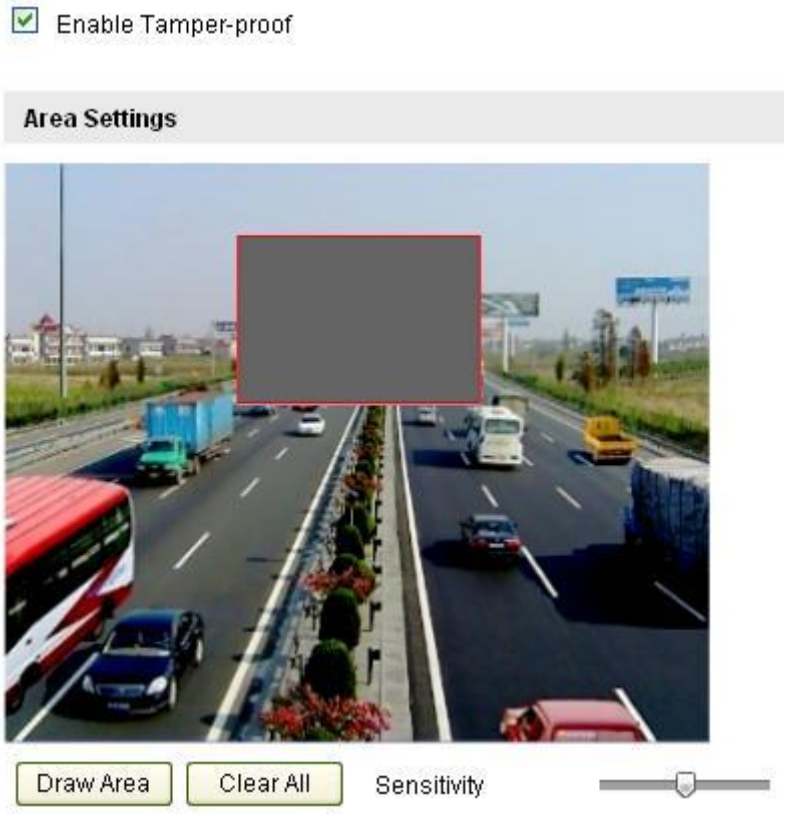


Figure 6-28 Tamper-proof Alarm

2. Check **Enable Tamper-proof** checkbox to enable the tamper-proof detection.
3. Set the tamper-proof area; refer to *Step 1* ***Set the Motion Detection Area*** in *Section 6.6.1.*

4. Click Edit to edit the arming schedule for tamper-proof. The arming schedule configuration is the same as the setting of the arming schedule for motion detection. Refer to *Step 2* ***Set the Arming Schedule for Motion Detection*** in *Section 6.6.1.*
5. Check the checkbox to select the linkage method taken for the tamper-proof. Audible warning, notify surveillance center, send email and trigger alarm output are selectable. Please refer to *Step 3* ***Set the Alarm Actions for Motion Detection*** in *Section 6.6.1.*

6. Click Save to save the settings.

6.6.3 Configuring External Alarm Input

Steps:

1. Enter the Alarm Input Settings interface:

Configuration > Advanced Configuration> Events > Alarm Input:

2. Choose the alarm input No. and the Alarm Type. The alarm type can be NO (Normally Open) and NC (Normally Closed). Edit the name to set a name for the alarm input (optional).

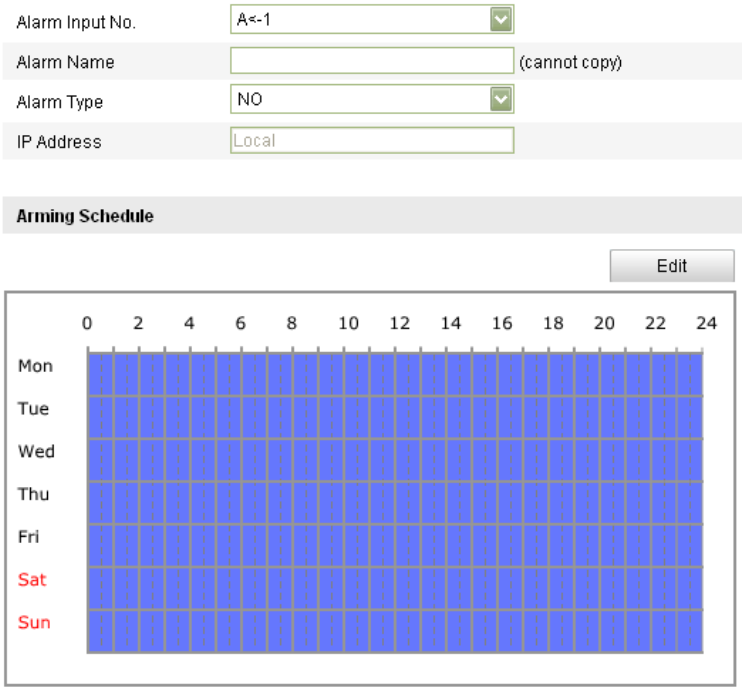


Figure 6-29 Alarm Input Settings

3. Click Edit to set the arming schedule for the alarm input. Refer to *Step 2* ***Set the Arming Schedule for Motion Detection*** in *Section 6.6.1.*
4. Check the checkbox to select the linkage method taken for the alarm input. Refer to *Step 3* ***Set the Alarm Actions for Motion Detection*** in *Section 6.6.1.*
5. You can also choose the PTZ linking for the alarm input if your camera is installed with a pan/tilt unit. Check the relative checkbox and select the No. to enable Preset Calling, Patrol Calling or Pattern Calling.
6. You can copy your settings to other alarm inputs.
7. Click Save to save the settings.

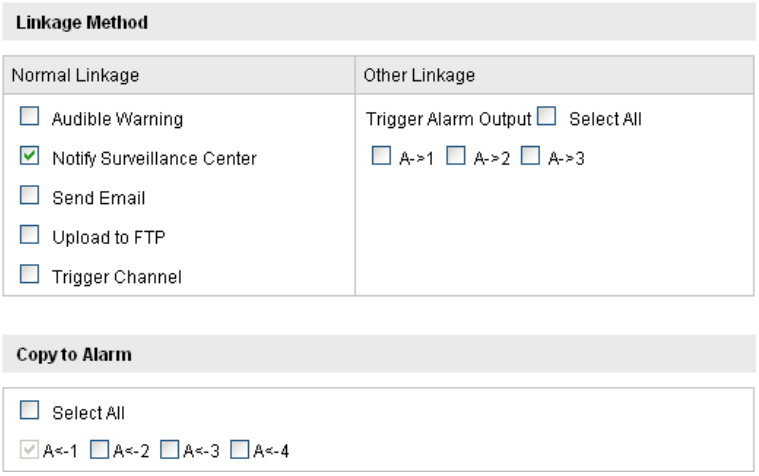


Figure 6-30 Linkage Method

6.6.4 Configuring Alarm Output

Steps:

1. Enter the Alarm Output Settings interface:

Configuration>Advanced Configuration> Events > Alarm Output

2. Select one alarm output channel in the **Alarm Output** drop-down list. You can also set a name for the alarm output (optional).
3. The **Delay** time can be set to **5sec, 10sec, 30sec, 1min, 2min, 5min, 10min** or **Manual**. The delay time refers to the time duration that the alarm output remains in effect after alarm occurs.
4. Click Edit to enter the **Edit Schedule Time** interface. The time schedule configuration is the same as the settings of the arming schedule for motion detection Refer to *Step 2* ***Set the Arming Schedule for Motion Detection*** in *Section 6.6.1.*
5. You can copy the settings to other alarm outputs.
6. Click Save to save the settings.

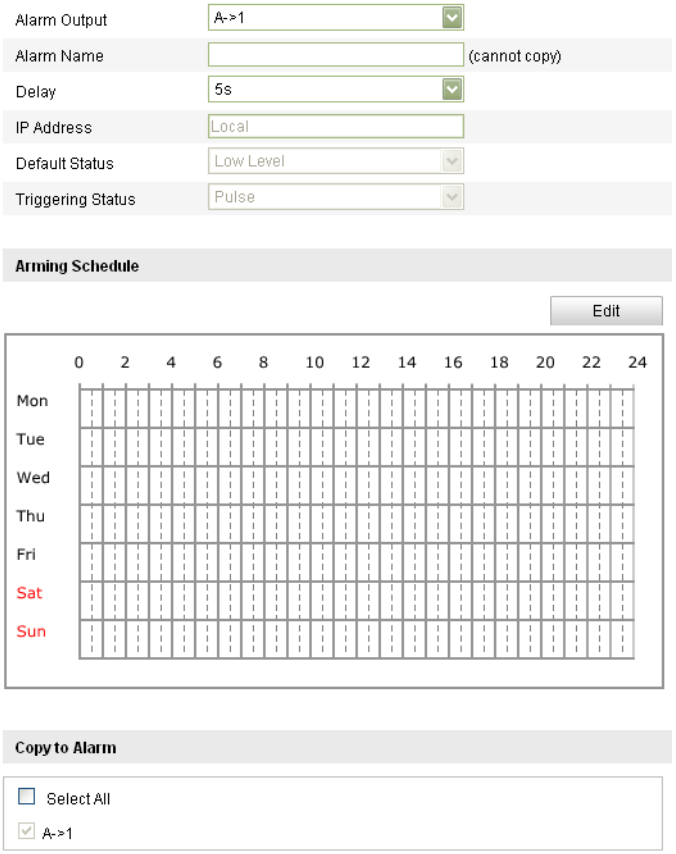


Figure 6-31 Alarm Output Settings

6.6.5 Handling Exceptions

The exception type can be HDD full, HDD error, network disconnected, IP address conflicted and illegal login to the cameras.

Steps:

1. Enter the Exceptions Settings interface:

Configuration > Advanced Configuration> Events > Exception

2. Check the checkbox to set the actions taken for the Exception alarm. Refer to *Step 3* ***Set the Alarm Actions Taken for Motion Detection*** in *Section 6.6.1.*

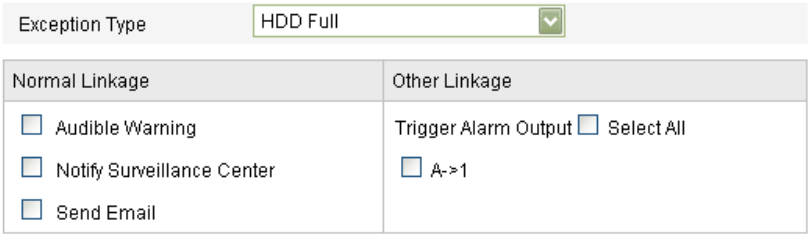


Figure 6-32 Exception Settings

3. Click Save to save the settings.

6.6.6 Email Sending Triggered by Alarm

Purpose:

The system can be configured to send an Email notification to all designated receivers if an alarm event is detected, e.g., motion detection event, video loss, tamper-proof, etc.

Before you start:

Please configure the DNS Server settings under **Basic Configuration > Network > TCP/IP** or **Advanced Configuration > Network > TCP/IP** before using the Email function.

Steps:

1. Enter the TCP/IP Settings (**Configuration > Basic Configuration > Network > TCP/IP** or **Configuration > Advanced Configuration > Network > TCP/IP)** to set the IPv4 Address, IPv4 Subnet Mask, IPv4 Default Gateway and the Preferred DNS Server.
   Note: Please refer to *Section 6.3.1* ***Configuring TCP/IP Settings*** for detailed information.
2. Enter the Email Settings interface:

Configuration > Advanced Configuration > Events > Email

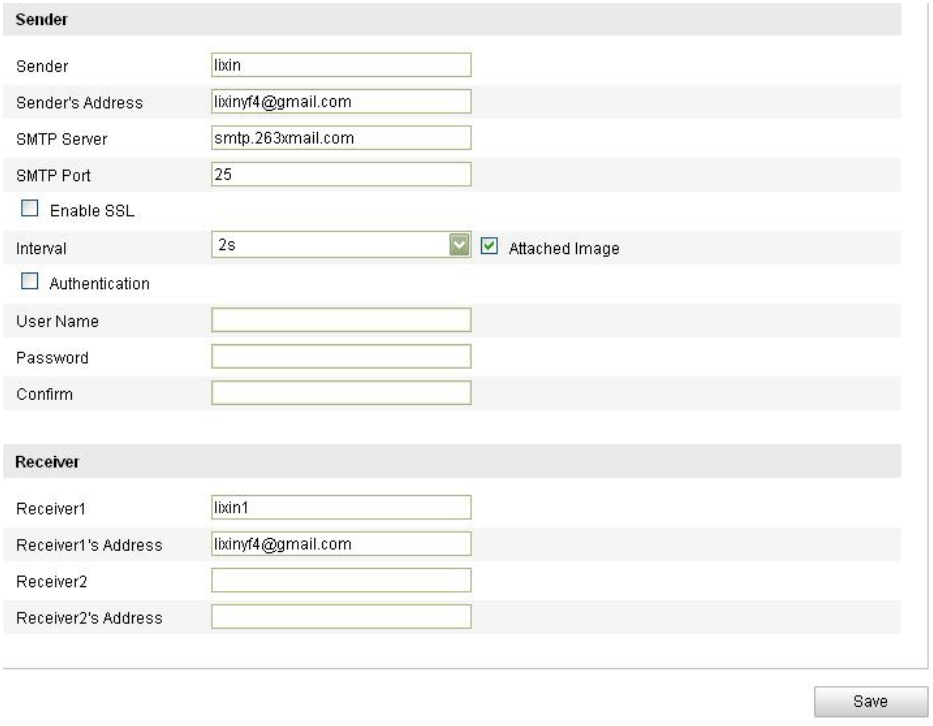


Figure 6-33 Email Settings

3. Configure the following settings:
   Sender: The name of the email sender.
   Sender's Address: The email address of the sender.
   SMTP Server: The SMTP Server IP address or host name (e.g., smtp.263xmail.com).
   SMTP Port: The SMTP port. The default TCP/IP port for SMTP is 25 (not secured).

And the SSL SMTP port is 465.

Enable SSL: Check the checkbox to enable SSL if it is required by the SMTP server.

Attached Image: Check the checkbox of Attached Image if you want to send emails with attached alarm images.

Interval: The interval refers to the time between two actions of sending attached pictures.

Authentication (optional): If your email server requires authentication, check this checkbox to use authentication to log in to this server and enter the login user Name and password.

Choose Receiver: Select the receiver to which the email is sent. Up to 2 receivers can be configured.

Receiver: The name of the user to be notified.

Receiver's Address: The email address of user to be notified.

4. Click Save to save the settings.

6.6.7 Configuring Snapshot Settings

Purpose:

You can configure the scheduled snapshot and event-triggered snapshot. The captured picture can be stored in the SD card (if supported) or the netHDD (For detailed information about netHDD, please refer to *Section 7.1* ***Configuring NAS Settings***). You can also upload the captured pictures to a FTP server.

Basic Settings

Steps:

1. Enter the Snapshot Settings interface:

Configuration > Advanced Configuration > Events > Snapshot

2. Check the **Enable Timing Snapshot** checkbox to enable continuous snapshot. Check the **Enable Event-triggered Snapshot** checkbox to check event-triggered snapshot.
3. Select the quality of the snapshot.
4. Set the time interval between two snapshots.
5. Click

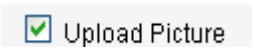
to save the settings.

Uploading to FTP

You can follow below configuration instructions to upload the snapshots to FTP.

●Upload continuous snapshots to FTP

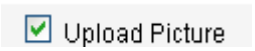
Steps:

1) Configure the FTP settings and check 

checkbox in FTP Settings interface. Please refer to *Section 6.3.8* ***Configuring FTP Settings*** for more details to configure FTP parameters.
2) Check the **Enable Timing Snapshot** checkbox.

●Upload event-triggered snapshots to FTP

Steps:

1) Configure the FTP settings and check 

checkbox in FTP Settings interface. Please refer to *Section 6.3.8* ***Configuring FTP Settings*** for more details to configure FTP parameters.

2) Check Upload to FTP checkbox in Motion Detection Settings or Alarm Input interface. Please refer to *Step 3* ***Set the Alarm Actions Taken for Motion Detection*** in *Section 6.6.1, or Step 4* ***Configuring External Alarm Input*** in *Section 6.6.4.*

3) Check the **Enable Event-triggered Snapshot** checkbox.

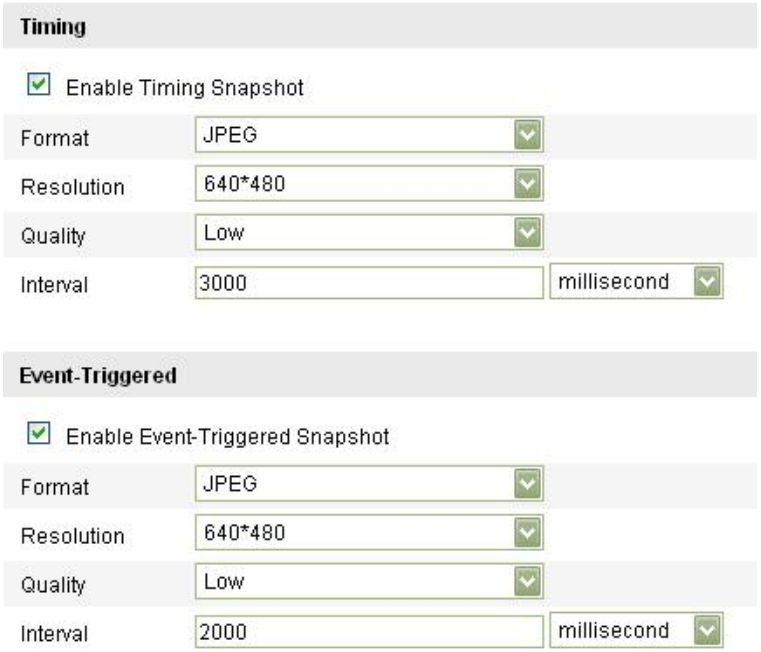
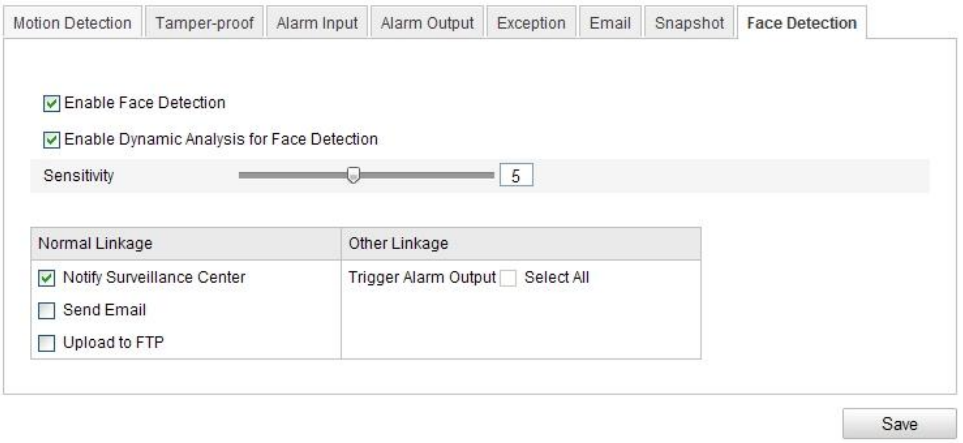


Figure 6-34 Snapshot Settings

6.6.8 Face Detection

Note: Face detection is only for certain modules, check the specification for whether the module supports the function.
If you enable the face detection, once a face appears in the surveillance area, it will be detected and certain actions may be triggered by the detection.



Steps:

1. Enter the face detection settings interface:

Configuration > Advanced Configuration > Events > Face Detection

2. Check the Enable Face Detection to checkbox to enable the function.
3. (Optional)You can check the Enable Dynamic Analysis for Face Detection checkbox if you want the face detected get marked with rectangle in the live view.
4. Configure the sensitivity of face detection. The default value is 5.
5. (Optional)You can also configure the linkage action for face detection.

Chapter 7 Storage Settings

Before you start:

To configure record settings, please make sure that you have the network storage device within the network or the SD card inserted in your camera.

7.1 Configuring NAS Settings

Before you start:

The network disk should be available within the network and properly configured to store the recorded files, log files, etc.

Steps:

1. Add the network disk
   (1) Enter the NAS (Network-Attached Storage) Settings interface:

Configuration > Advanced Configuration > Storage > NAS

HDD No.	Type	Server Address	File Path
1	NAS	172.6.21.99	/dvr/test01
2	NAS		
3	NAS		
4	NAS		
5	NAS		
6	NAS		
7	NAS		
8	NAS		

Figure 7-1 Add Network Disk

(2) Enter the IP address of the network disk, and enter the default file.

Note: Please refer to the *User Manual of NAS* for creating the file path.

(3) Click Save to add the network disk.

Note: After having saved successfully, you need to reboot the camera to activate the settings.

2. Initialize the added network disk.
   (1) Enter the HDD Settings interface (**Advanced Configuration > Storage > Storage Management**), in which you can view the capacity, free space, status, type and property of the disk.

HDD Device List — Format

HDD No.	Capacity	Free space	Status	Type	Property	Progress
9	195.30GB	0.00GB	Uninitialized	NAS	R/W	

Figure 7-2 Initialize Disk

(2) If the status of the disk is **Uninitialized**, check the corresponding checkbox to select the disk and click Format to start initializing the disk.

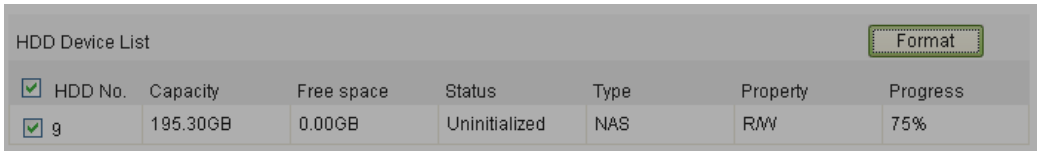


Figure 7-3 Initializing

When the initialization completed, the status of disk will become **Normal.**

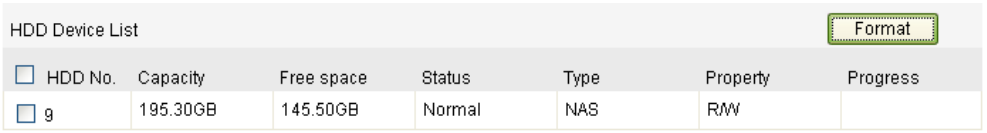


Figure 7-4 View Disk Status

Figure 7-4 View Disk Status

Notes:

- Up to 8 NAS disks can be connected to the camera.
- To initialize and use the SD card after insert it to the camera, please refer to the steps of NAS disk initialization.

7.2 Configuring Recording Schedule

Purpose:

There are two kinds of recording for the cameras: manual recording and scheduled recording. For the manual recording, refer to *Section 5.3* ***Recording and Capturing Pictures Manually***. In this section, you can follow the instructions to configure the scheduled recording. By default, the record files of scheduled recording are stored in the SD card (if supported) or in the network disk.

Steps:

1. Enter the Record Schedule Settings interface:

Configuration > Advanced Configuration> Storage > Record Schedule

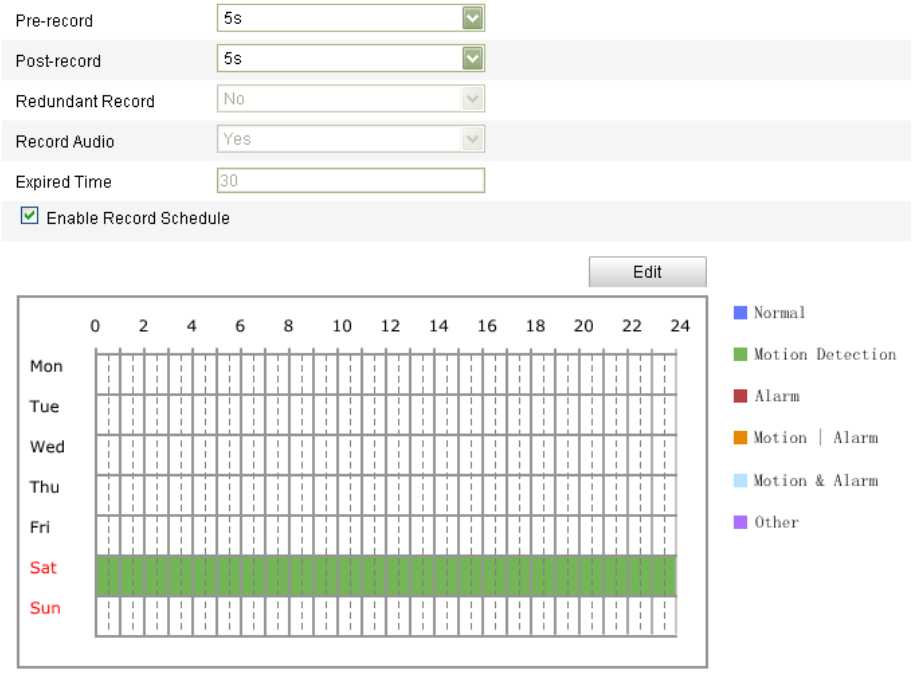


Figure 7-5 Recording Schedule Interface

2. Check the checkbox of **Enable Record Schedule** to enable scheduled recording.
3. Set the record parameters of the camera.

Figure 7-6 Record Parameters

- Pre-record: The time you set to start recording before the scheduled time or the event. For example, if an alarm triggers recording at 10:00, and the pre-record time is set as 5 seconds, the camera starts to record at 9:59:55.
  The Pre-record time can be configured as No Pre-record, 5 s, 10 s, 15 s, 20 s, 25 s, 30 s or not limited.
- Post-record: The time you set to stop recording after the scheduled time or the event. For example, if an alarm triggered recording ends at 11:00, and the post-record time is set as 5 seconds, the camera records until 11:00:05.
  The Post-record time can be configured as 5 s, 10 s, 30 s, 1 min, 2 min, 5 min or 10 min.

Note: The record parameter configurations vary depending on the camera model.

4. Click Edit to edit the record schedule.

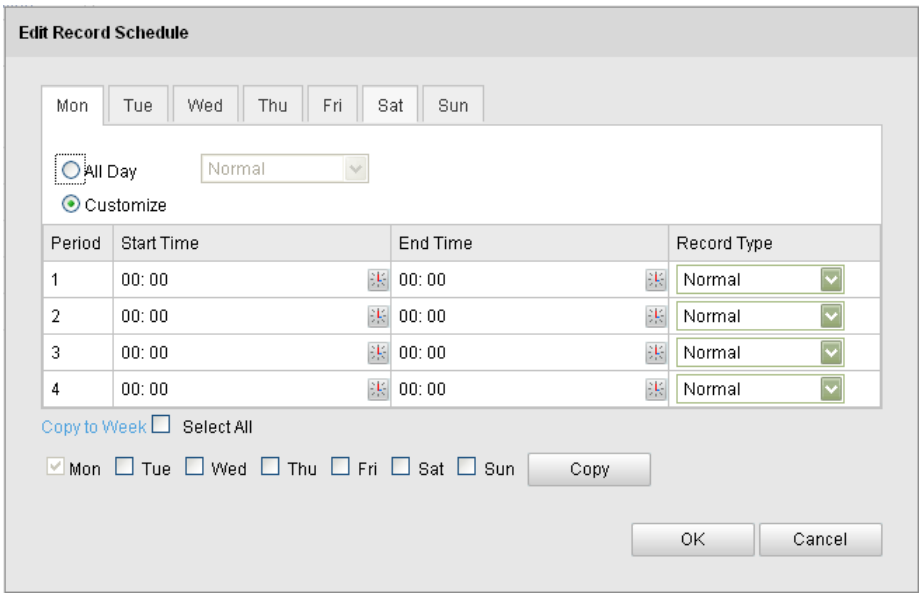


Figure 7-7 Record Schedule

5. Choose the day to set the record schedule.

(1) Set all-day record or segment record:

●If you want to configure the all-day recording, please check the **All Day** checkbox.

●If you want to record in different time sections, check the **Customize** checkbox. Set the **Start Time** and **End Time.**

Note: The time of each segment can't be overlapped. Up to 4 segments can be configured.

(2) Select a **Record Type**. The record type can be Normal, Motion Detection, Alarm, Motion | Alarm, Motion & Alarm, PIR Alarm, Wireless Alarm, Emergency Alarm, or Motion | Alarm Input | PIR | Wireless | Emergency.

●Normal

If you select **Normal**, the video will be recorded automatically according to the time of the schedule.

●Record Triggered by Motion Detection

If you select **Motion Detection**, the video will be recorded when the motion is detected.

Besides configuring the recording schedule, you have to set the motion detection area and check the checkbox of **Trigger Channel** in the **Linkage Method** of Motion Detection Settings interface. For detailed information, please refer to the *Step 1* ***Set the Motion Detection Area*** *in the Section 5.6.1.*

●Record Triggered by Alarm

If you select **Alarm**, the video will be recorded when the alarm is triggered via the external alarm input channels.

Besides configuring the recording schedule, you have to set the **Alarm Type** and check the checkbox of **Trigger Channel** in the **Linkage Method** of **Alarm Input Settings** interface. For detailed information, please refer to

Section 5.6.4.

●**Record Triggered by Motion & Alarm**

If you select **Motion & Alarm**, the video will be recorded when the motion and alarm are triggered at the same time.

Besides configuring the recording schedule, you have to configure the settings on the **Motion Detection** and **Alarm Input Settings** interfaces. Please refer to *Section 5.6.1* and *Section 5.6.4* for detailed information.

●**Record Triggered by Motion | Alarm**

If you select **Motion | Alarm**, the video will be recorded when the external alarm is triggered or the motion is detected.

Besides configuring the recording schedule, you have to configure the settings on the **Motion Detection** and **Alarm Input Settings** interfaces. Please refer to *Section 5.6.1* and *Section 5.6.4* for detailed information.

●**Record Triggered by PIR Alarm**

If you select **PIR Alarm**, the video will be recorded when the PIR alarm is detected.

Besides configuring the recording schedule, you have to set the PIR alarm and check the checkbox of **Trigger Channel** in the **Normal Linkage** of PIR Alarm in Other Alarm Settings interface. For detailed information, please refer to *Step 2* ***Configure the PIR Alarm*** *in the Section 5.6.9.*

●**Record Triggered by Wireless Alarm**

If you select **Wireless Alarm**, the video will be recorded when the wireless alarm is detected.

Besides configuring the recording schedule, you have to set the wireless alarm and check the checkbox of **Trigger Channel** in the **Normal Linkage** of Wireless Alarm in Other Alarm Settings interface. For detailed information, please refer to *Step 1* ***Configure the Wireless Alarm*** *in the Section 5.6.9.*

●**Record Triggered by Emergency Alarm**

If you select **Emergency Alarm**, the video will be recorded when the emergency alarm is detected.

Note: This type is for certain series camera only.

●**Record Triggered by Manual Alarm**

If you select **Manual Alarm**, the video will be recorded when manual alarm is triggered.

●**Record Triggered by PIR | Wireless | Manual**

If you select **PIR | Wireless | Manual,** the video will be recorded when the PIR alarm or wireless alarm or manual alarm is detected.

Besides configuring the recording schedule, you have to configure the settings for wireless alarm and PIR alarm in Other Alarm Settings interface. For detailed information, please refer to *Section 5.6.9.*

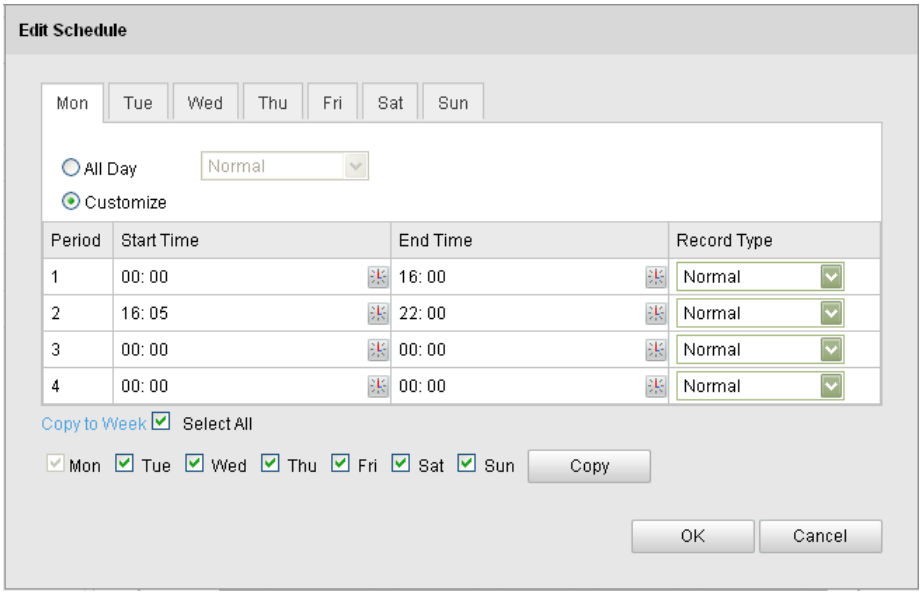


Figure 7-8 Edit Record Schedule

(3) Check the checkbox Select All and click Copy to copy settings of this day to the whole week. You can also check any of the checkboxes before the date and click Copy.

(4) Click OK to save the settings and exit the **Edit Record Schedule** interface.

6. Click Save to save the settings.

Chapter 8 Playback

Purpose:

This section explains how to view the remotely recorded video files stored in the network disks or SD cards.

Steps:

1. Click Playback on the menu bar to enter playback interface.

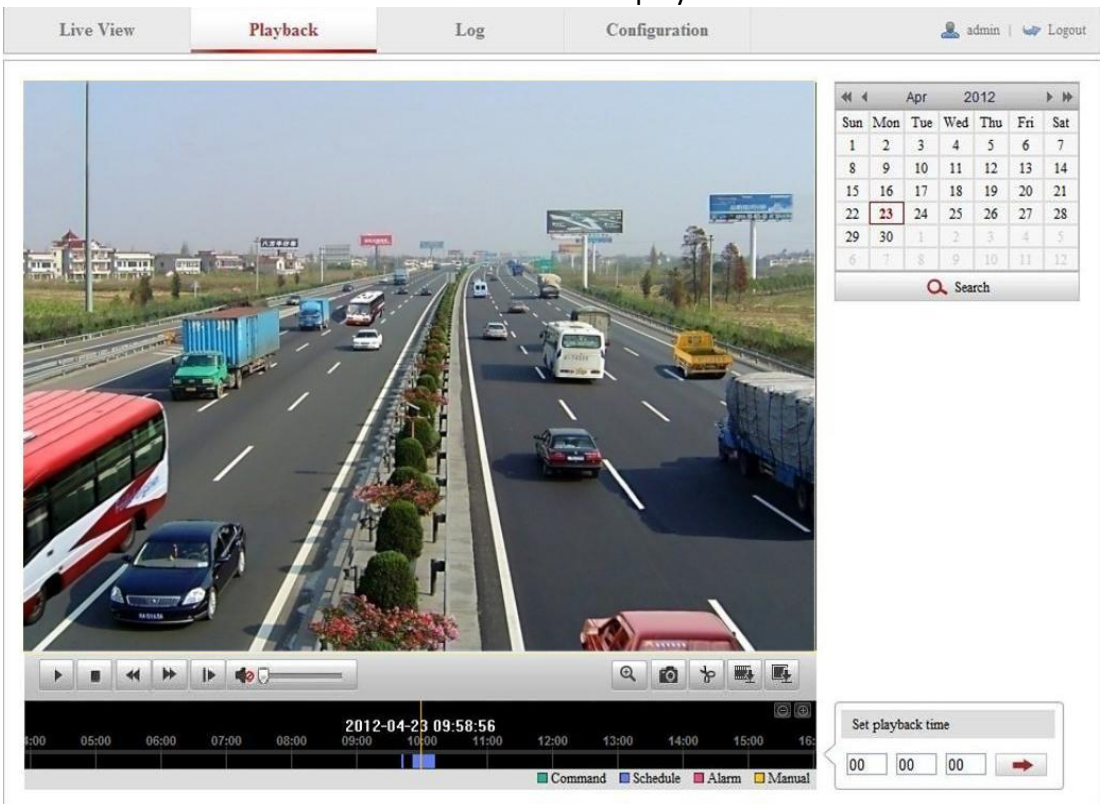


Figure 8-1 Playback Interface

2. Select the date and click Search.

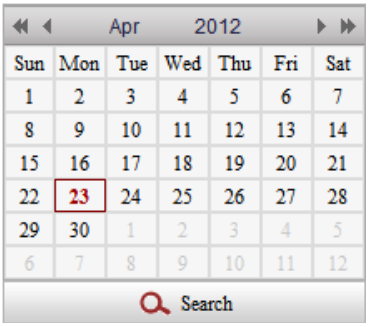


Figure 8-2 Search Video

3. Click to play the video files found on this date.

The toolbar on the bottom of Playback interface can be used to control playing

process.

Figure 8-3 Playback Toolbar

Table 8-1 Description of the buttons

Button	Operation	Button	Operation
	Play		Capture a picture
	Pause	/	Start/Stop clipping video files
	Stop		Audio on and adjust volume/Mute
	Speed down		Download video files
	Speed up		Download captured pictures
	Playback by frame		Enable/Disable digital zoom

Note: You can choose the file paths locally for downloaded playback video files and pictures in Local Configuration interface. Please refer to *Section 5.1* for details.
Drag the progress bar with the mouse to locate the exact playback point. You can also input the time and click to locate the playback point in the **Set playback time** field. You can also click to zoom out/in the progress bar.

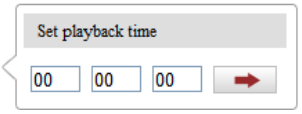


Figure 8-4 Set Playback Time

Figure 8-5 Progress Bar

The different colors of the video on the progress bar stand for the different video types.

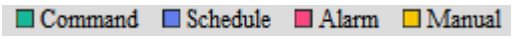


Figure 8-6 Video Types

Chapter 9 Log Searching

Purpose:

The operation, alarm, exception and information of the camera can be stored in log files. You can also export the log files on your demand.

Before you start:

Please configure network storage for the camera or insert a SD card in the camera.

Steps:

1. Click Log on the menu bar to enter log searching interface.

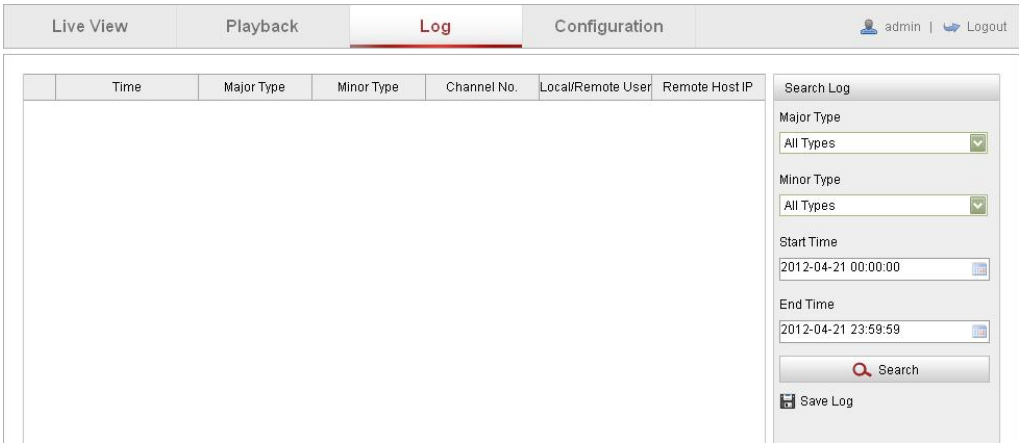


Figure 9-1 Log Searching Interface

2. Set the log search conditions to specify the search, including the Major Type, Minor Type, Start Time and End Time.

3. Click Search to search log files. The matched log files will be displayed on the **Log** interface.

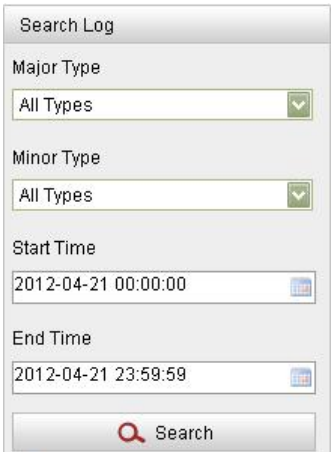


Figure 9-2 Log Searching

4. To export the log files, click to save the log files in your computer.

Chapter 10 Others

10.1 Managing User Accounts

Enter the User Management interface:
Configuration >Basic Configuration> Security > User
Or Configuration > Advanced Configuration> Security > User
The **admin** user has access to create, modify or delete other accounts. Up to 15 user accounts can be created.

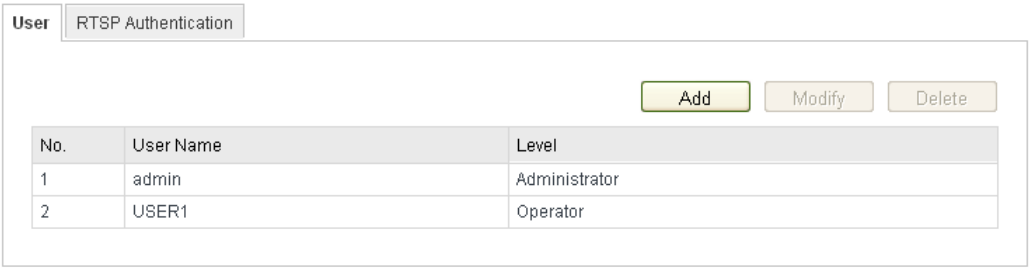


Figure 10-1 User Information

Figure 10-1 User Information

●Add a User
Steps:

1. Click Add to add a user.
2. Input the new **User Name**, select **Level** and input **Password.**

Note: The level indicates the permissions you give to the user. You can define the user as **Operator** or **User**.

3. In the **Basic Permission** field and **Camera Configuration** field, you can check or uncheck the permissions for the new user.
4. Click OK to finish the user addition.

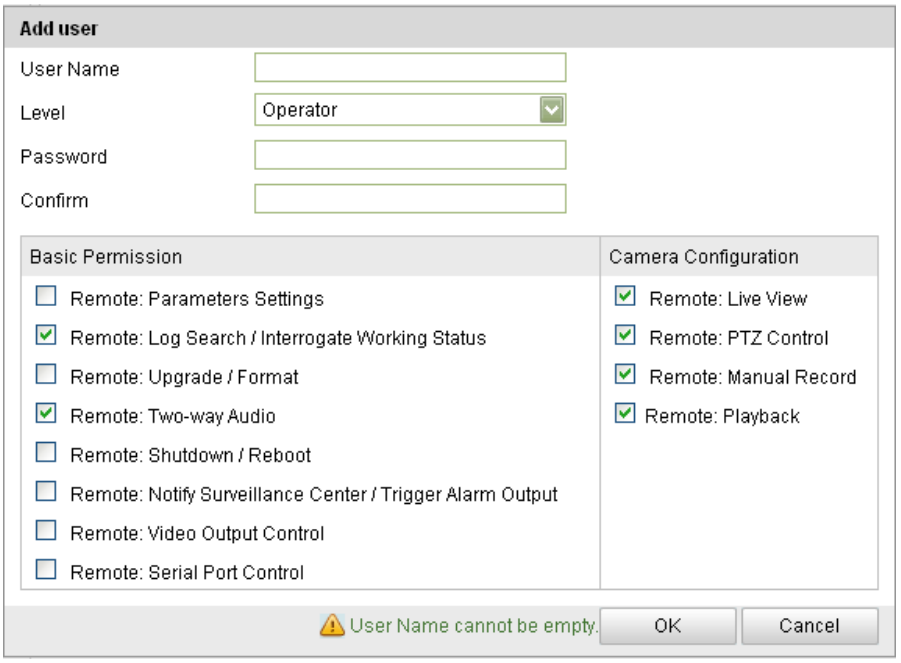


Figure 10-2 Add a User

Figure 10-2 Add a User

●Modify a User

Steps:

1. Left-click to select the user from the list and click Modify.
2. Modify the **User Name**, **Level** or **Password**.
3. In the **Basic Permission** field and **Camera Configuration** field, you can check or uncheck the permissions.
4. Click OK to finish the user modification.

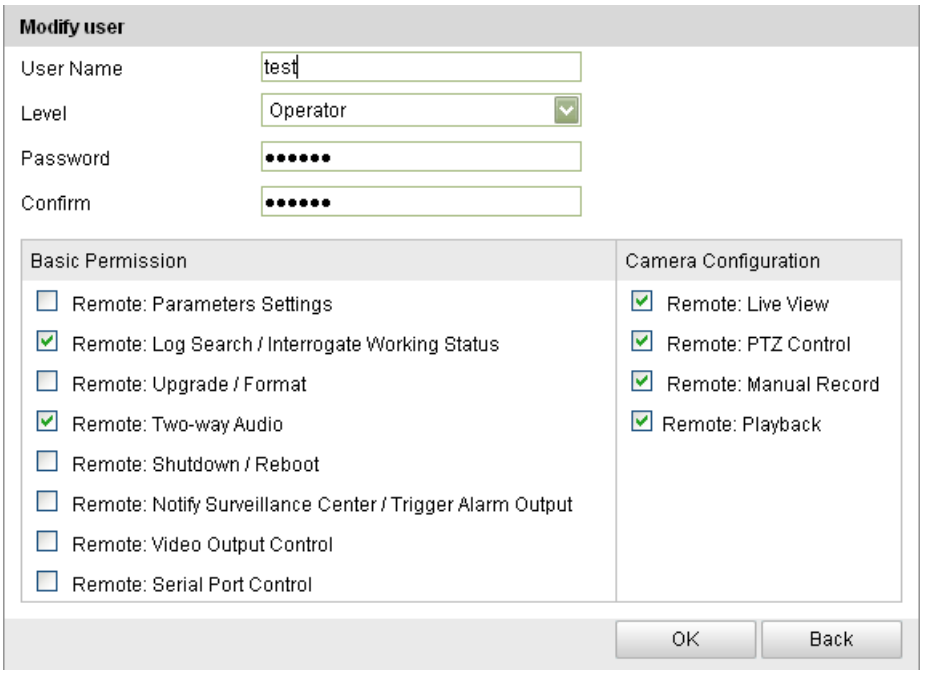


Figure 10-3 Modify a User

●Delete a User

Steps:

1. Left-click the user name you want to delete and click Delete.

2. Click OK on the pop-up dialogue box to delete the user.

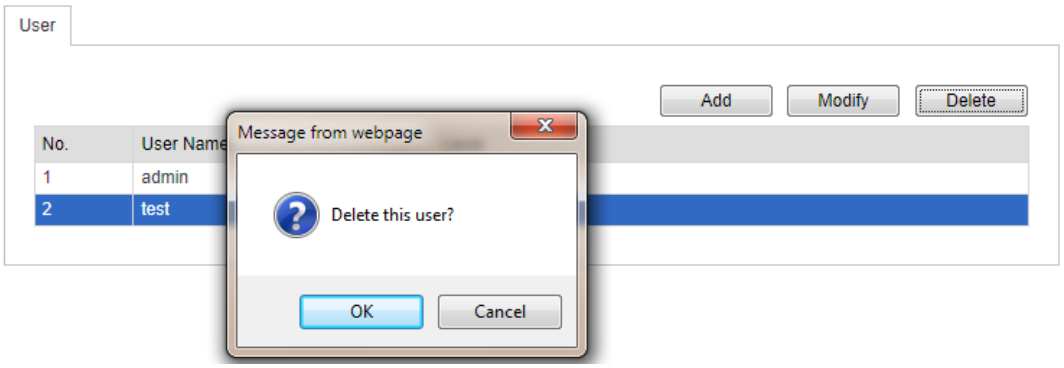


Figure 10-4 Delete a User

Figure 10-4 Delete a User

●Anonymous Visit

10.2 Configuring RTSP Authentication

Purpose:

You can specifically secure the stream data of live view.

Steps:

1. Enter the RTSP Authentication interface**:**

Configuration> Advanced Configuration> Security > RTSP Authentication

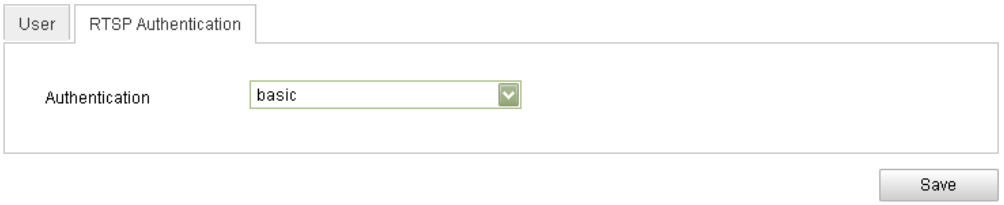


Figure 10-5 RTSP Authentication

2. Select the **Authentication** type **basic** or **disable** in the drop-down list to enable or disable the RTSP authentication.

Note: If you disable the RTSP authentication, anyone can access the video stream by the RTSP protocol via the IP address.

3. Click Save to save the settings.

10.3 Anonymous Visit

Purpose:

Enabling this function allows visit for whom doesn't have the user name and password of the device.

Steps:

1. Enter the Anonymous Visit interface:

Configuration> Advanced Configuration> Security > Anonymous Visit

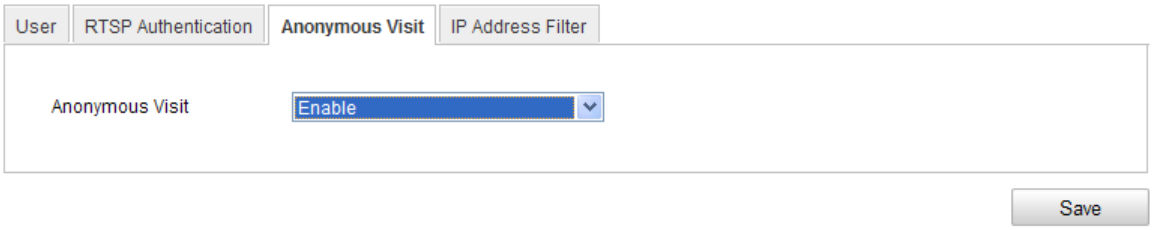


Figure 10-6 Anonymous Visit

2. Set the **Anonymous Visit** permission **Enable** or **Disable** in the drop-down list to enable or disable the anonymous visit.

3. Click Save to save the settings.

There will be a checkbox of Anonymous by the next time you logging in.

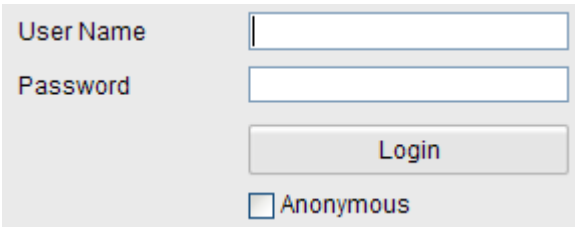


Figure 10-7 Login Interface with an Anonymous Checkbox

4. Check the checkbox of **Anonymous** and click Login.

10.4 IP Address Filter

Purpose:

This function makes it possible for access control.

Steps:

1. Enter the IP Address Filter interface:

Configuration> Advanced Configuration> Security > IP Address Filter

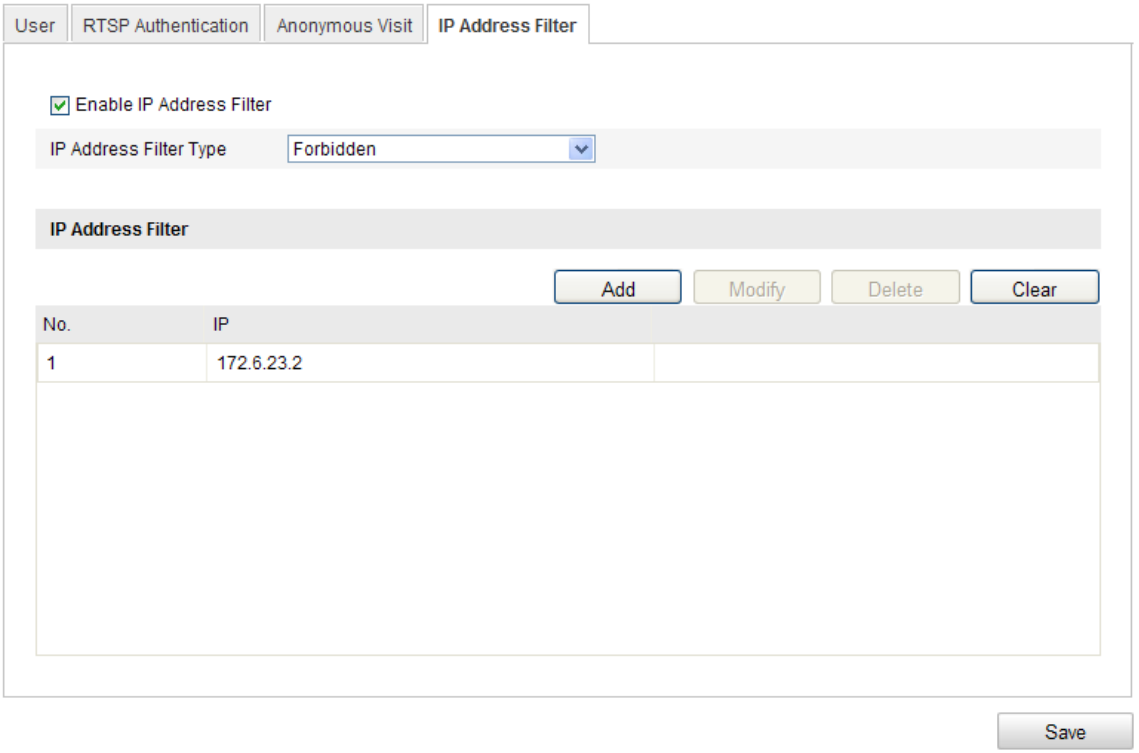


Figure 10-8 IP Address Filter Interface

2. Check the checkbox of **Enable IP Address Filter**.
3. Select the type of IP Address Filter in the drop-down list, **Forbidden** and **Allowed** are selectable.
4. Set the IP Address Filter list.

●Add an IP Address

Steps:

(1) Click the Add button to add an IP.

(2) Input the IP Adreess.

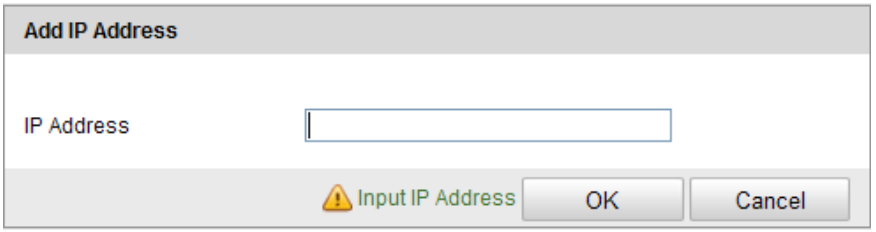


Figure 10-9 Add an IP

(3) Click the OK button to finish adding.

●Modify an IP Address

Steps:

(1) Left-click an IP address from filter list and click Modify button.

(2) Modigy the IP address in the text filed.

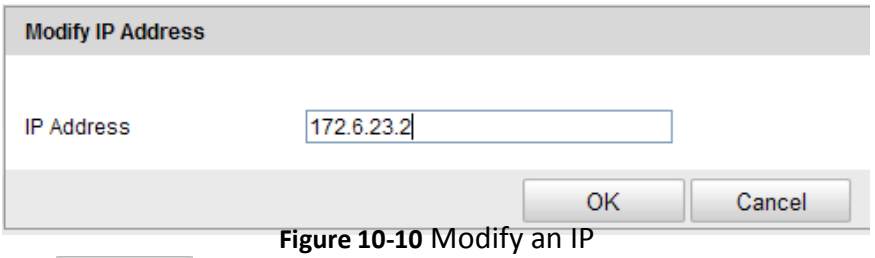


Figure 10-10 Modify an IP

(3) Click the OK button to finish modifying.

●Delete an IP Address

Left-click an IP address from filter list and click Delete button.

●Delete all IP Addresses

Click Clear button to delete all the IP addrsses.

5. Click Save button to save the settings.

10.5 Viewing Device Information

Enter the Device Information interface:

Configuration > Basic Configuration> System > Device Information
Or **Configuration > Advanced Configuration> System > Device Information**
In the **Device Information** interface, you can edit the Device Name.
Other information of the network camera, such as Model, Serial No., Firmware Version, Encoding Version, Number of Channels, Number of HDDs, Number of Alarm Input and Number of Alarm Output are displayed. The information cannot be changed in this menu. It is the reference for maintenance or modification in future.

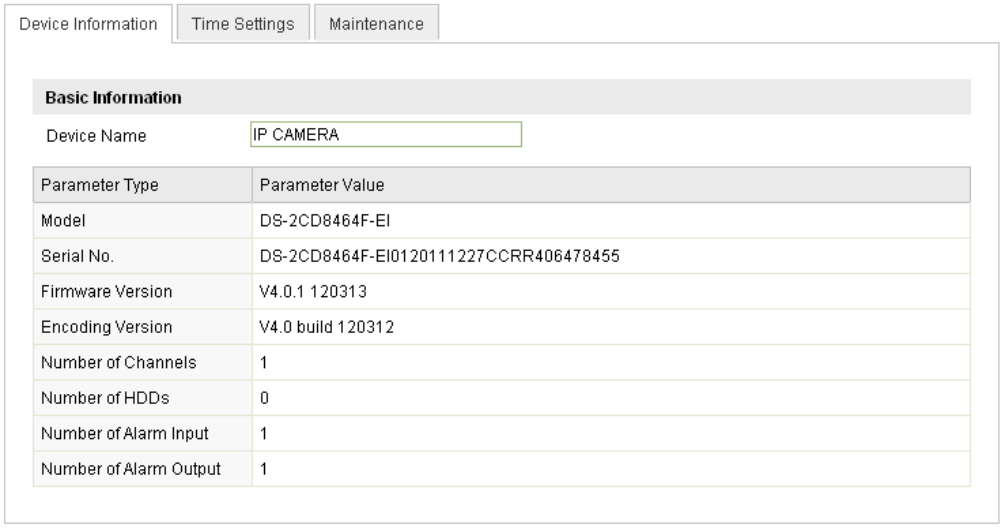


Figure 10-11 Device Information

10.6 Maintenance

10.6.1 Rebooting the Camera

Steps:

1. Enter the Maintenance interface:

Configuration > Basic Configuration> System > Maintenance

Or **Configuration > Advanced Configuration> System > Maintenance:**

2. Click Reboot to reboot the network camera.

Figure 10-12 Reboot the Device

10.6.2 Restoring Default Settings

Steps:

1. Enter the Maintenance interface:

Configuration > Basic Configuration> System > Maintenance

Or **Configuration > Advanced Configuration> System > Maintenance**

2. Click Restore or Default to restore the default settings.

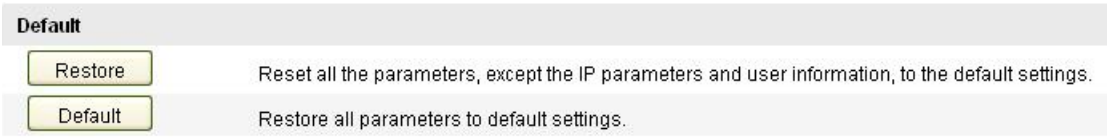

Default
Restore
Reset all the parameters, except the IP parameters and user information, to the default settings.
Default
Restore all parameters to default settings.

Figure 10-13 Restore Default Settings

Note: After restoring the default settings, the IP address is also restored to the default IP address, please be careful for this action.

10.6.3 Importing/Exporting Configuration File

Steps:

Enter the Maintenance interface:

Configuration > Basic Configuration> System > Maintenance

Or **Configuration > Advanced Configuration> System > Maintenance**

1. Click Browse to select the local configuration file and then click Import to

start importing configuration file.

Note: You need to reboot the camera after importing configuration file.

2. Click Export and set the saving path to save the configuration file in local storage**.**

Figure 10-14 Import/Export Configuration File

10.6.4 Upgrading the System

Steps:

1. Enter the Maintenance interface:

Configuration > Basic Configuration> System > Maintenance

Or **Configuration > Advanced Configuration> System > Maintenance**

2. Click Browse to select the local upgrade file and then click Upgrade to start remote upgrade.

Note: The upgrading process will take 1 to 10 minutes. Please don't disconnect power of the camera during the process. The camera reboots automatically after upgrading.

Figure 10-15 Remote Upgrade

10.7 RS-232 Settings

Purpose:

The RS-232 port can be used in two ways:

- Parameters Configuration: Connect a computer to the camera through the serial port. Device parameters can be configured by using software such as HyperTerminal. The serial port parameters must be the same as the serial port parameters of the camera.
- Transparent Channel: Connect a serial device directly to the camera. The serial device will be controlled remotely by the computer through the network.

Steps:

1. Enter RS-232 Port Setting interface:
Configuration> Advanced Configuration> System > RS232

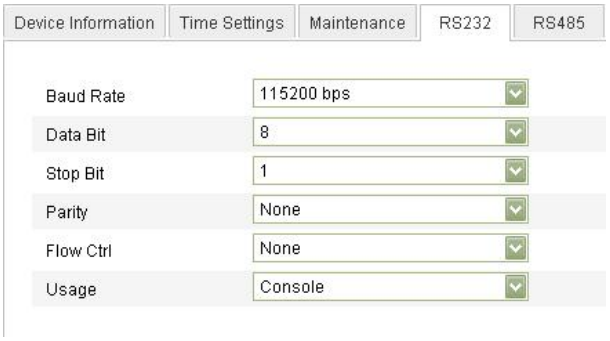


Figure 10-16 RS-232 Settings

Note: If you want to connect the camera by the RS-232 port, the parameters of the RS-232 should be exactly the same with the parameters you configured here.

2. Click Save to save the settings.

10.8 RS-485 Settings

Purpose:
The RS-485 serial port is used to control the PTZ of the camera. The configuring of the PTZ parameters should be done before you control the PTZ unit.
Steps:
1. Enter RS-485 Port Setting interface:
Configuration> Advanced Configuration> System > RS485

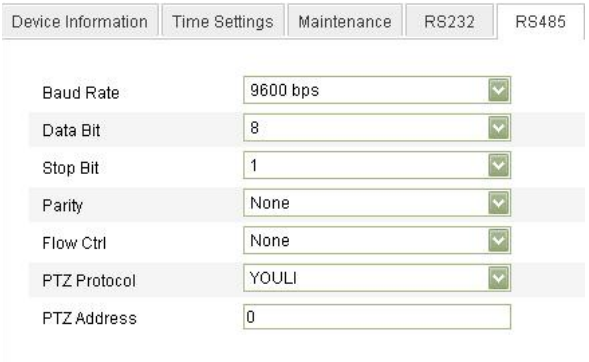


Figure 10-17 RS-485 Settings

2. Set the RS-485 parameters and click Save to save the settings.

By default, the Baud Rate is set as 9600 bps, the Data Bit is 8, the stop bit is 1 and the Parity and Flow Control is None.
Note: The Baud Rate, PTZ Protocol and PTZ Address parameters should be exactly the same as the PTZ camera parameters.

Appendix

Appendix 1 SADP Software Introduction

●Description of SADP V2.0

SADP (Search Active Devices Protocol) is a kind of user-friendly and installation-free online device search tool. It searches the active online devices within your subnet and displays the information of the devices. You can also modify the basic network information of the devices using this software.

●Search active devices online

●Search online devices automatically

After launch the SADP software, it automatically searches the online devices every 15 seconds from the subnet where your computer locates. It displays the total number and information of the searched devices in the Online Devices interface. Device information including the device type, IP address, port number, gateway, etc. will be displayed.

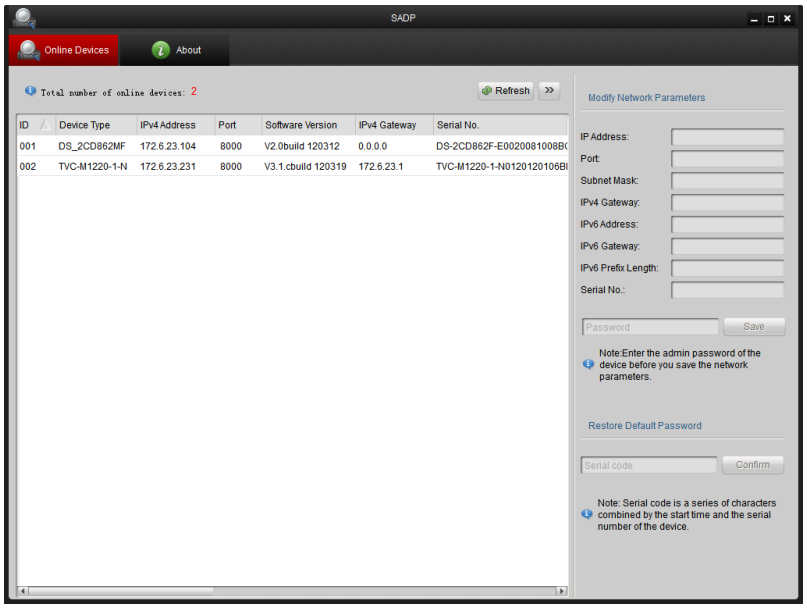


Figure A.1.1 Searching Online Devices

Note: Device can be searched and displayed in the list in 15 seconds after it went online; it will be removed from the list in 45 seconds after it went offline.

●Search online devices manually

You can also click Refresh to refresh the online device list manually. The newly searched devices will be added to the list.

Note: You can click or on each column heading to order the information; you can click to expand the device table and hide the network parameter panel on the right side, or click to show the network parameter panel.

●Modify network parameters

Steps:

1. Select the device to be modified in the device list and the network parameters of the device will be displayed in the **Modify Network Parameters** panel on the right side.
2. Edit the modifiable network parameters: IP address and port number.
3. Enter the password of the admin account of the device in the **Password** field and click Save to save the changes.

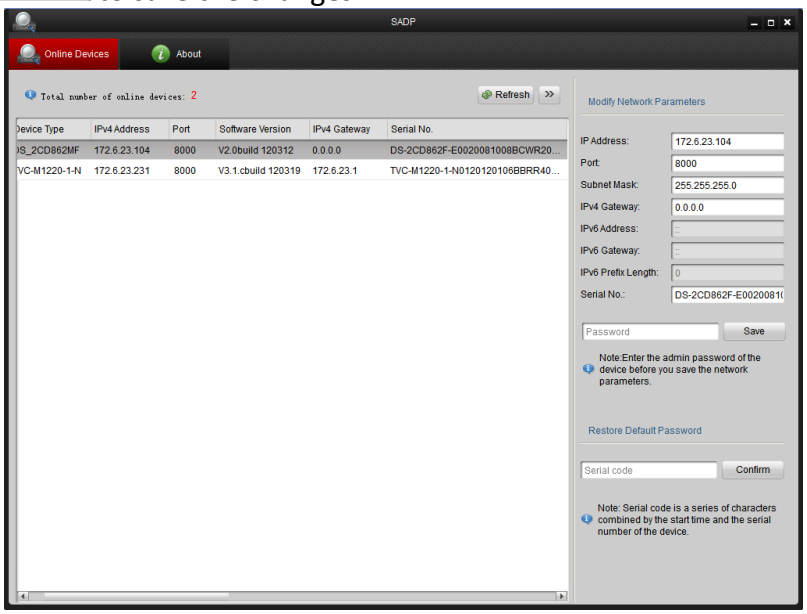


Figure A.1.2 Modify Network Parameters

●Restore default password

Steps:

1. Contact our technical engineers to get the serial code.

Note: Serial code is a series of characters combined by the start time and the serial number of the device.

2. Input the code in the **Serial code** field and click Confirm to restore the default password.

Appendix 2 Port Mapping

The following settings are for TP-LINK router (TL-R410). The settings vary depending on different models of routers.

Steps:

1. Select the **WAN Connection Type**, as shown below:

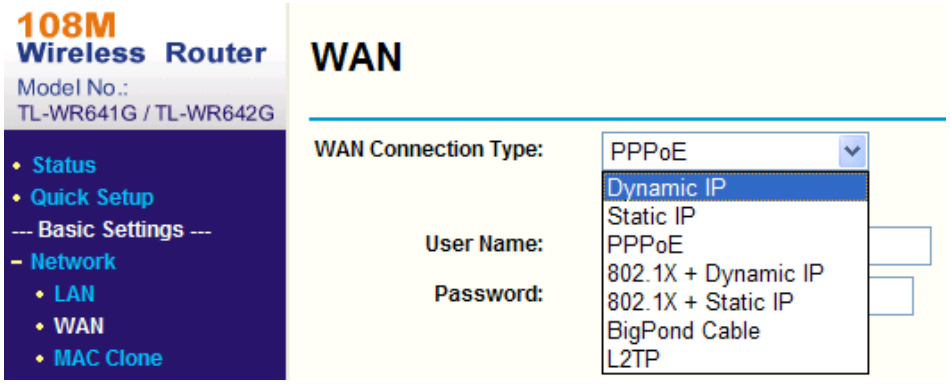


Figure A.2.1 Select the WAN Connection Type

2. Set the **LAN** parameters of the router as in the following figure, including IP address and subnet mask settings.

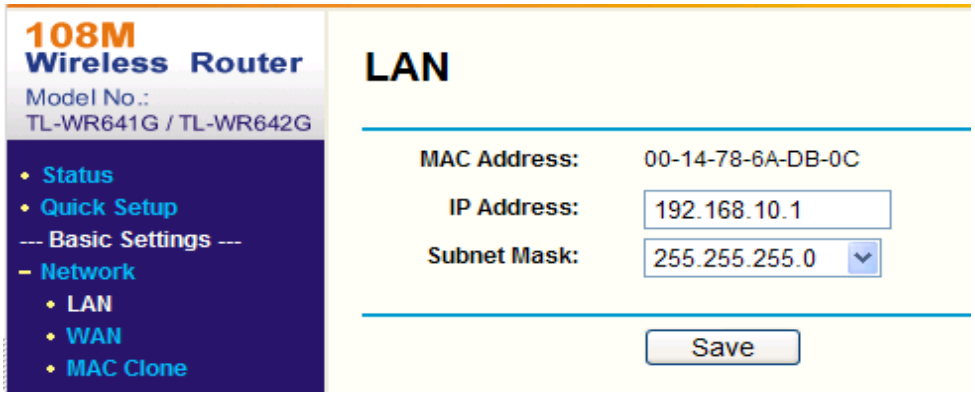


Figure A.2.2 Set the LAN parameters

3. Set the port mapping in the virtual severs of **Forwarding**. By default, camera uses port 80, 8000, 554 and 8200. You can change these ports value with web browser or client software.

Example:

When the cameras are connected to the same router, you can configure the ports of a camera as 80, 8000, 554 and 8200 with IP address 192.168.1.23, and the

ports of another camera as 81, 8001, 555, 8201 with IP 192.168.1.24. Refer to the steps as below:

Note: The 8200 port changes with the 8000 port with a constant value of 200. So, if the 8000 port is changed to 8005, then the 8200 port should be changed to 8205.

Steps:

1. As the settings mentioned above, map the port 80, 8000, 554 and 8200 for the network camera at 192.168.1.23
2. Map the port 81, 8001, 555 and 8201 for the network camera at 192.168.1.24.
3. Enable **ALL** or **TCP** protocols.
4. Check the **Enable check box** and click Save.

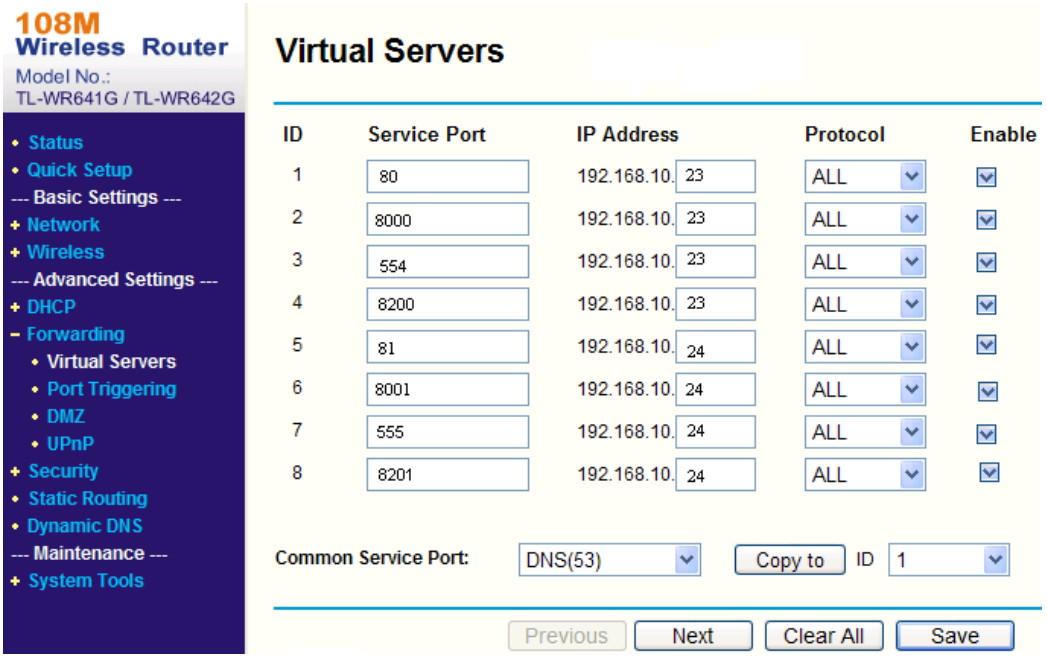


Figure A.2.3 Port Mapping

Note: The port of the network camera cannot conflict with other ports. For example, some web management port of the router is 80. Change the camera port if it is the same as the management port.

NOTES: